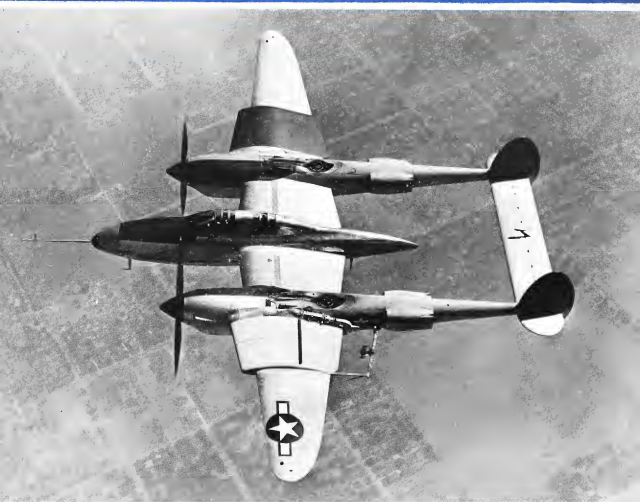


# Aviation News

McGRAW-HILL PUBLISHING COMPANY, INC.

NOV. 12, 1945



**"Flying Wind Tunnel":** This experimental modification of a Lockheed P-38 has been used secretly since 1943 to test characteristics of airfoils which are installed as envelopes, of false wings, over the permanent wing structure. Here it is testing a turbine pump designed to suck boundary layer turbulence from the surface of a laminar-flow airfoil section. The suction slot, and the pump at the airfoil root, are shown clearly. The five-ft. yaw meter on the nose has brought the craft the nickname of "The Swordfish."

## **Simplified Supersonic Speed Wings Being Rushed**

Cast and forged types known to be under development to meet problem of thinness and smoothness.....Page 7

## **Republic to Try Exhaust Turbines in 'Compound Engine'**

Designers look forward to power recovery of as high as one-third; other engineers see drawbacks but see net economy.....Page 10

## **Kaiser Studies Transcontinental Airfreight Line**

Firm of consultants working on survey; start of service in near future considered possible, using surplus C-47's.....Page 35

## **Close Airline—CAA Cooperation On Problems Seen**

Encouragement found in recent four-day conference where many worrisome industry matters were settled.....Page 38

# Washington Observer



it was a long, rough  
grind until MOT-O-TROL  
stopped the chatter



The 30-year-old control system (top) was replaced by the flexible Westinghouse Mot-O-Trol drive (center) which eliminated vibrations, cut setup time, improved precision, and saved 35% in floor space (bottom).

Here is a prime example of the smooth regulation Westinghouse Mot-O-Trol offers for modern electronic control on countless tasks.

This grinding operation required closely regulated speeds over a wide range in machining hardened pump liners. But the cumbersome overhead controls of these 30-year-old grinders were unable to meet these demands. Excessive vibration ground chatter results into the liners. Subsequent honing became inaccurate. Setup time was high.

The answer was found in replacing the obsolete controls with Westinghouse Mot-O-Trol, an electronic drive combining an electronic rectifier (to change a-c to d-c) and a d-c driving motor with stepless speed control by a potentiometer in the pushbutton station.

The grinding operation showed immediate improvement. Vibrations and chatter marks were eliminated. Precision was sharply improved, scrap time was cut. And the new arrangement saved 35% in floor space.

This case history is typical of the flexibility of Mot-O-Trol in solving any control problem requiring wide-range stepless speeds and close, automatic regulation at all speeds and at varying loads. Your nearest Westinghouse office has all the information in Bulletin B-3201. Or write Westinghouse Electric Corporation, P. O. 854, Pittsburgh 30, Pa.



**Westinghouse**  
PLANS IN 31 COUNTRIES OFFICES EVERYWHERE

*Electronics at Work*

DEPARTMENT OF DEFENSE—Despite whatever convincing arguments Army chiefs possessed to Congress for uniformity of the armed forces into a single Department of Defense, it is rather a safe bet that there will be no such overall consolidation. Reason: politically undesirable. To form such a combine would mean the strongly constructed and tradition-wise congressional committees having jurisdiction over the Army and Navy would have to vote themselves out of existence. Congressional bodies are not in the habit of voting themselves out of existence.

SEPARATE AIR FORCE—Capitol Hill observers sensitive to political trends say this does not mean there might not be a separate Army Air Force. Such is entirely possible and much sentiment is developing for this proposal. It might even create new House and Senate committees. As for the Naval Air Arm, it is very likely that the Navy will keep that under its wing. It will take something more than a political oceanic bomb to blast Naval air from the Navy Department.

CONTRACT TERMINATIONS — Although the goal for cleaning up contract termination problems had been fixed for Jan. 1 by both the AAF and Navy, there appears little likelihood that this can be accomplished. Numerous extensions have been tacked in expiring termination cases. Many of them missed the Oct. 15 deadline. It now appears that quite a number of important cases still will be unfinished after the first of the year and that the work may not be finished before March.

BUAER REORGANIZATION—Plans are being advanced for reorganizing the Navy's Bureau of Aeronautics into a more compact and simplified unit. Based on one-time experiments, recommendations have been made and plans are well along to fix the reorganization into a pattern which will include four key points instead of the present complex organization which includes some 15 units. New organization would fit into a pattern like this: Chief of the Bureau, Deputy Chief of the Bureau, Engineering division and Materials division.

SURPLUS TO FLIGHT SCHOOLS—Surplus Property Administration is preparing a regulation to permit aviation technical and flight schools to obtain non-flyable aviation surplus at reduced rates. These schools have been unable to qualify under the present educational program as the law limits it to non-profit educational institutions. Prices for the trade schools will be above those charged non-profit schools (\$350 for a B-17, for example), but still below regular disposal prices.

AERONAUTICAL BOARD REORGANIZES—A sweeping reorganization of the Aeronautical Board has resulted in an hands all military aircraft production matters. Functions and files of the now defunct Aircraft Production Board, Joint Aircraft Committee and Aircraft Resources Control Office have been moved to the board which is being staffed by high ranking Army and Navy officers. Only effect of the Board's action on civilian production will be in the fields of standardization and research.



Latest photograph of Bell's new XP-53 jet fighter, first pictured on AVIATION NEWS cover Oct. 29.



# Never before were Timing Mechanisms so important!

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# Aviation News

McGraw-Hill Publishing Co., Inc.

November 12, 1945

## Simplified Supersonic Speed Wings Being Rushed By Major Producers

Cast and forged types known to be under development to meet problem of thinness and smoothness; Lockheed reveals "flying wind tunnel."

By SCHOLER BANGS

Today's airplane wings, so costly as they are complex in construction, must be considered obsolete and on their way out in the light of still-secret engineering developments now being rushed by major American aircraft manufacturers.

The probability of ordinary supersonic flight may be expected to force into being new wing shapes and radical construction methods.

**Projects**—Known to be under serious consideration are:

▶ A "tonged" see-piece hollow metal wing, requiring neither beams nor ribs for strengthening, its contour and "knife" leading edge machined and finally polished to ultra smoothness.

▶ A very thin solid metal airfoil for lightness and winged mounting.

▶ A thin cast metal wing, probably for winged mounting.

▶ A wing in which the metal skin, fitted with internal rivet plates, is wrapped over beam and rib framework and secured by internal crimping. Electrically-fused titanium rivets may be used. The result will be a wing of exceptionally smooth surface.

▶ A wing in which the metal skin has been die-formed and then is stamped, glove-like, over the internal framework for spot-welding into secure pontian.

**Objective**—Smoothness of contour appears to be the prime objective in research now under way. The quest for thinner wings as well as smoothness, calls for elimination of surface riveting and general simplification of internal wing structures.

Definitely indicative of the new wing trend are the Bell and Lockheed jet fighters now in production. In both types the production of smooth wings at laborious and

costly, calling for counterwork riveting, the grinding of rivet heads flush with the skin surface, putty-filling of skin irregularities, painting, buffing, and waxing.

**Research**—Lockheed has just released a photo (see cover) of one "flying wind tunnel" with which research into high-speed wing flow is being conducted. The plant, an experimental modification of a P-38, may be equipped with false wings built to air speed desired. A special cockpit has been provided for an engineer-observer, while instruments in the nose are recorded by automatic camera.

## Hiller Firm Building Two-Place Commuter

Four commercial projects, including one "bus type," being developed by young California designer.

Four commercial helicopter projects are under development in Berkeley, Calif., by Stanley Hiller, 25. Following his separation from Hovis J. Kaiser and organization of United Helicopters, Inc., which

he heads as president and general manager.

Now under construction are a two-passenger 144-mph. Commuter which Hiller expects to have a test flight by February; a "Luna-type" helicopter trainer, the prototype of which has been tested; and an electric-motored jet identified as the Hiller Jet Helicopter Trainer.

**"Bus Type"**—Still in the design stage is a "bus type" helicopter Hiller is developing for an unattended transportation company.

A two-passenger all-metal Hiller-Copter completed by Hiller under Kaiser sponsorship remains the property of Kaiser and has been shipped to Kaiser Corp's Fleetwing Division at Bristol, Penna. Hiller said that while Kaiser retains right to manufacture under Hiller license, the West Coast industrialist has no participation in United Helicopters.

**Commuter**—The young helicopter designer told AVIATION NEWS he anticipates early assembly-line production of the Commuter, which will have a body length of less than 12 feet, a 31-hp rotor wingspan, dual controls, and a full-view plastic shell cabin. A 150-hp engine will be used.

The extreme caution Hiller has showed in extended tests of his original Hiller-Copter, first flown a year ago, should be considered an indication that the young inventor, now 25, will not plunge recklessly into commercial production. The prototype undoubtedly will be flown extensively before Hiller applies for a commercial certificate.



## BOMBER-DESTROYER:

A new photo of the XP-54, built by Lockheed as a bomber-destroyer. An overgrown version of the P-38 Lightning, it is powered by two 2420 Allison "double" engines.

## Commercial Rating of Rockets Seen As Aerojet Corp. Reconverts

California firm, a subsidiary of General Tire & Rubber, will turn to development work as JATO production for Army and Navy decreases

The first commercial evaluation of rocket power may come from what probably is the largest "private enterprise" rocket research laboratory in the United States.

Military development of rockets by Aerojet Engineering Corp., of Azusa, Calif., as part of Army and Navy rocket programs, will be turned directly into commercial fields as military production is eased.

**Exploration** — It is reasonable that Aerojet's systems, General Tire & Rubber Co., will not limit Aerojet's post-war research and production experience without a full exploitation of the rocket's industrial value.

Aerojet's engineering staff may be expected to produce at the earliest moment an estimate of whether, and how soon, rocket power will be economically practical as a prime power for aircraft. Such a report will end much of the speculative speculation concerning cargo rockets, passenger rocket service and human flight into outer space, all provocative but as far theoretical. It should give the aircraft and air transport

industries a substantial base on which to plan, if feasible, their next steps beyond present concepts of jet-propelled flight.

**Secrecy** — Heretofore, virtually all of Aerojet's activities, other than the development and production of jet-assisted take-off (JATO) rockets, have been obscured by military secrecy. Much of the detail of its research may continue in the secret category for some time to come.

Within Aerojet's 70-acre proving ground at Azusa, Calif., crowded with production, research and testing facilities, two basic developments are being followed.

**Solid fuel rocket research**— assessing the utility of JATO rockets. Aerojet officials have initiated studies with the Army and Navy, and the Civil Aeronautics Administration to determine the commercial uses for the device.

**Liquid fuel research**—embracing rocket designing that may offer great promise of commercial utility, and the exploration of new types of fuels with objectives of increasing thrust, reducing fuel consumption and obtaining fuel

which will be acceptable for commercial operations.

Several types of resonance jet engines have been designed by Aerojet engineers and currently are under test, with an eye on their commercial future.

**Premise** — Bar-splitting in their operation and revenues in their consumption of fuel, liquid rocket motors now under test nevertheless show considerable promise in their light weight, simplicity and range of power. One motor small enough to fit into the fuselage of the average single seat fighter, and weighing only a fraction of a conventional power plant, delivers 6,000 lbs. of static thrust.

Small liquid rocket engines developed by Aerojet for assisted take-off have been used on many aircraft and have been tested as brief duration sources of auxiliary power to boost the combat speeds of lighter planes. The application of rocket power to all types of aircraft, and the consequent designer's ability to design aircraft to fly at speeds where rocket power is economical, Aerojet engineers believe.

**Reliable**—More closely approaching commercial utility today are Aerojet's solid fuel JATO motors which have an exceptionally high ratio of thrust to weight and have proved safe and reliable. Electrically ignited by a simple push button, these motors are delivered in a form 2 1/2 to 4 1/2 of a second. These motors, with the addition of a "thrust stopper," can be stopped at any time during their run by the pilot.

The JATO fuel, while generating terrific power when burning, has the commercially appealing advantage of extreme safety. The fuel is stable and insensitive to shock, and requires pressure within the motor and a temperature in excess of 125 deg. F. for ignition. The motors may be safely stored for periods up to one year.

**Other Uses** The possession of heavy military orders for solid fuel JATO motors and the success of research aimed at eliminating the smoke generated by present fuel compounds undoubtedly will hasten the commercial use of this form of rocket power, which has had experimental application beyond aviation. Successful Army tests have been run in moving heavy mail-carrying trucks by banks of JATO motors attached to the sides of the vehicles — pushing them forward and at the same

time blasting away mud that would hold following trucks.

Until recently, with the appearance of General Tire & Rubber as owner of "controlling" interest, Aerojet excited largely as a JATO project, pulling to military application the original rocket research conducted by the Company's organizing stockholders, most of them California Institute of Technology scientists.

**Officials**—President of Aerojet is W. O'Neil of Akron, Ohio, who also is president of General Tire & Rubber. The remaining officers of the company are Dan A. Campbell, vice-president, A. H. Bude, executive vice-president, T. E. Beehan, secretary-treasurer, W. E. Zick, assistant secretary, and E. Nelson, director of sales and chief engineering test pilot.

**Research leadership** of Aerojet is provided by Dr. Fritz Zwicky, world famed Caltech astro-physicist, director of research, Dr. M. M. Moore, former assistant director of research at Caltech-Wright and noted for his wind tunnel work is manager of research Brooks T. Morris is assistant director of research. Dr. M. J. Zander is chief technical advisor to management and Dr. A. L. Aronson, chief process control engineer. K. F. Munn is chief engineer, R. B. Young is senior liquid fuel rocket motor designer, and W. L. Rogers is senior solid fuel rocket motor designer.

### W. L. Pierson Elected To TWA Directorate

Warren Lee Pierson, president American Cable and Radio Corp. of New York, has been elected to the board of directors of Transcontinental & Western Air. Pierson is a former president of Export-Import Bank in Washington and is also a director of International Telephone and Telegraph Corp., the U. S. Commercial Co. and Rubber Development Corp.

### Surplus Sales Check

Surplus Property Administration has established its own "police force" to check on the observance of the law in disposal of surplus property.

The new Surplus Property Compliance Enforcement Bureau is headed by Joseph F. Carroll, former Federal judge of Livingston, Tenn. Criminal cases are referred to the FBI, and if prosecution is warranted, to the Department of Justice.

## Arnold Report Stresses Progress

The weapons of today are the weapons of tomorrow, says General Arnold emphatically in his just-released report to the Secretary of War, adding that the B-36, the Superfortress of today, soon will belong in the Smithsonian Institution with the Wright and Langley planes—the place to be taken later by bombers that will carry 50 tons of bombs, plane with jet or rocket motors capable of flying around the world at supersonic speeds.

In the past, the commanding general of the AAF commands, the United States has shown a deep-seated willingness to be caught in a position of having to start a war with equipment and doctrine used at the end of a preceding war.

**Find fault**—"We have paid heavily for this error," he says. "A repetition of this error in the future could mean annihilation."

General Arnold's report is the war in Europe and is the Pacific, and air future power.

Air power, he said, includes a nation's ability to deliver cargo, people, destructive munitions and war-making potential through the air to a desired destination in accomplishing a desired purpose.

**Total ability**—Air power, the General adds, is not composed alone of the war-making components of aviation. It also includes aviation activity—civilian and military, commercial and private, oriented as well as fighting.

The General recalled that at the outset of this war, some of the leading aircraft manufacturers stated that they could not make the necessary number of airplanes in the time set.

"They also believed that only aircraft companies could manufacture aircraft because of the precision methods required," and then added significantly, "so it turned out, automobile, refrigerator, radio and other manufacturers quickly learned to produce aircraft and related equipment with precision methods."

### Kinners Changes Name, Plans Horizontal Motor

Announcement of plans for a new, small, horizontal-type engine for private aircraft has been made by Kinners Motors, Inc., manufacturing out with the disclosure that name of the company has been changed to Gladden Products Corp. No details were given regarding

the new engine, which is still in the design stage. Meanwhile, Gladden will continue manufacture of replacement parts for the many Kinners engines now in use.

The company will likewise continue service on many engines. Another division of Gladden, concerned with hydraulic controls, is working with lightplane manufacturers on such controls.



**Rocket Firing Grounds.** This is the first published photograph taken inside Aerojet's carefully-guarded 70-acre proving ground at Azusa, Calif. Standing beside a prototype 8,660-pound thrust turbo-rocket is G. F. Fairbank, service test mechanic; J. B. Hall, industrial engineer and E. E. Wilson, Aerojet sales manager and chief test pilot.



### NEW HARLOW DESIGN:

If flight tests of the new all-metal Harlow experimental plane, above, meet expectations, Max Harlow, Pasadena, Calif., the designer, plans to redesign the fuselage to provide a four-place cabin (AVIATION NEWS, Nov. 8). Speculation that Boeing Manufacturing Co. might be entering the personal plane field with this model, is discounted by Harlow, who says his new aircraft company's only interest was in financing and production of the experimental model. The new plane has a 235 hp. Levee powerplant, with 250 mph. indicated cruising speed. Harlow had a four-place, all-metal plane in production pre-war with a 145 hp. engine.

## Republic To Try Exhaust Turbines In "Compound Engine" on Rainbow

Designers look forward to power recovery of as high as one-third; other engineers see drawbacks but concede net fuel economy is possible.

Another serious attempt to use a "compound engine" on aircraft is indicated in reference to "jet booster assist" features of Republic Aviation's forthcoming high-speed, long-range transport, the Rainbow.

Republic designers hope to recover as high as an additional one-third of the original 3200 hp output from each of the craft's Pratt & Whitney 4300 reciprocating engines by use of exhaust turbines which will supply additional driving power. Other engineers, however, point out the net output may be cut considerably because of back-pressure and added equipment weight, but they concede the result still may be a considerable power saving in long flights. It is understood laboratory tests have already been conducted.

► **Theory**—The operating principle of compound engines is the transfer of exhaust gases from a high-pressure cylinder for utilization in a low-pressure cylinder. It has been used successfully in the

steam-power field, but has not yet been found feasible in the internal combustion engine. In the internal combustion engine, prohibitive heat loss occurs in transferring the gases, and back-pressure on the first power unit causes a loss of net output. In aircraft engines, moreover, weight-man requirements so far have discouraged such designs.

Substitution of a gas turbine for the secondary, or low-pressure cylinder, brings an entirely different result, however. The gas transfer problem, for instance, is vastly simplified and the high horsepower characteristics of the turbine fully satisfy weight-power requirements.

► **Supercharger** — A relatively small, but spectacularly successful application of the compound engine principle is found in the exhaust turbo-supercharger. This is compensating in a sense, although the secondary power output is not applied to the same drive shaft.

In the Rainbow, apparently, a

larger exhaust-powered turbine is planned.

► **Blowdown**—The turbine is the first step, then, the exhaust gases are transferred from the cylinder in normal fashion to turbine nozzles (stacks from persons of matching passion cycle may be joined). The gases then drive the turbine.

► **An additional refinement** to the system is the further transfer of gases from the blowdown turbine through a suitable nozzle to a low-pressure steady-flow turbine in either case the turbine drives the common propeller shaft. The ultimate step would be the reversed ejection of the gases through a jet tailpipe.

► **Power Gain**—Energy recovery of exhaust gases through turbines of one-third the original power rating is indicated. This is remarkable in view of the heat loss in transfer, and indicates something of net gain from a fuel economy standpoint.

Even with deductions for back-pressure on the original power source and the weight of the turbine installation the result nevertheless probably will provide a net fuel economy in long-range operations—the work for which the Rainbow is being designed.

► **Problem** — Certain additional mechanical problems remain. Turbines have not yet reached full development; cruise control would be difficult because of the many variable factors, and the coupling of vastly different speed prime movers is not as easy as it sounds. ► **One possible solution** would be a separate propeller, driven off the turbine shaft, for use as a supplementary pusher propeller, but this is not indicated in the Rainbow project.

### New Soaring Record

A new national soaring duration record for gliders was reported last week from Elmira, N. Y. after Paul Schleuter and Frank Hurst, both of Elmira, remained aloft 9 hours. It mirrors in a Schleuter airplane. Benjamin Shapiro, secretary of the Soaring Society of America, and the previous record was 8 hours, 36 minutes.

### New Soviet Dirigible

An 80-hour flight by a new Soviet dirigible, the Victoria, specifications of which were not revealed, is reported in the Moscow Belsherk. The Associated Press said it was the first dispatch from Russia to mention such a craft.

## Tentative AAF Plant Dispersal Plan Stresses Los Angeles Area Problem

Suggestions to manufacturers indicate aim is not a nation-wide relocation of facilities; immediate action unlikely as many firms have not been consulted officially.

Debate, at the same time informal suggestions made by AAF to aircraft manufacturers on the subject of dispersal of the industry, indicate that what the Army has in view is not so much a nation-wide readjustment of production facilities, as removal of some production from the Los Angeles area.

Following the discussion of dispersal in the report of the Air Coordinating Committee (Aviation News, Oct. 29), which was suggested the advisability of keeping commercial production at home plants and using inland plants for military output, AAF has tentatively conceived a "dream plan," chief ingredients being:

► **Fort Worth-Dallas Area**—Continued work by Convair on the B-36 satisfies requirements, with company's commercial and other work being done on West Coast. It is hoped that North American can do one-third of its work at Dallas, including production of its new bombers. It is also deemed that Fairchild gave a new C-42 subcontract to North American, to be undertaken at Dallas.

► **Oklahoma City-Tulsa**—Douglas is expected to continue its commercial production on the Coast, but Army-Navy hopes military production will be transferred to Tulsa, including the new Douglas torpedo bomber for the Navy.

► **Kansas-Missouri-Nebraska**—Activities of McDermott Aircraft at St. Louis, where it has taken over part of the old Curtiss-Wright plant for Navy work, built AAF hopes. There is little chance of rehoming any Pratt & Whitney work to the Kansas City plant and it will be held for an emergency situation at Wichita is regarded satisfactory for the time being as Boeing still has an organization in being there. AAF is trying to persuade Lockheed to transfer its military work to the Omaha plant where Martin formerly built B-29's.

► **Ohio-Indiana** — With Curtiss-Wright planning to transfer all its production to the Columbus, Ohio, plant, one of AAF's key points in its dispersal program for the Mid-

west will be effected. There are two other objectives: removal of Republic Aircraft to Evansville and re-occupation of the Lockland, Ohio, plant by Wright Aeronautical.

While these plans constitute AAF's ultimate, or desired, goal, there is small chance of any immediate action. Some of the companies involved have not been consulted officially. And, in general, industry leaders are not commenting on the proposals.

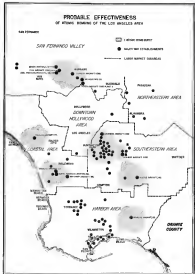
► **Scope**—Even a partial realization

of the program would please AAF, that part being the removal of a good share of production from the West Coast. Some quarters trust "dispersal" is not meant to have any general application at all, but actually applies only to the Los Angeles area.

Reason for this is illustrated in the accompanying chart, which was included in the Air Coordinating Committee's report.

It will be seen that six bombs such as the atomic explosives could neutralize the bulk of the aircraft industry on the West Coast. The shaded areas are coded to the size of the areas affected by the bombs dropped on Japan, and do not allow for potentially greater destructive force of improved atomic bombs.

► **Underground**—On the basis of the committee's report, it seems likely that experiments with



42-CYLINDER ENGINE:

Among interesting aircraft engine developments of World War II was this 42-cylinder Wright R-2800 Ten men in-line-cooled engine, developed for an experimental fighter, XP-59, but never put into mass production. Known in the engine industry as the Corsair because of its many banks of cylinders, the Tornado was displayed recently at Wright Field. It is rated at 2,500-hp.

underground facilities—once contemplated—will not be undertaken. Results of aerial bombardment of Germany show that whereas the underground facilities may be intact, adjoining transportation and workers' homes are knocked out so that the end result—crippling of the plant—is the same.

The West Coast originally became a great aircraft production area mainly because of the availability of skilled help. This, however, is no longer the cardinal factor. War-time aircraft production at inland centers created a reservoir of trained workers and it is this pool that the AAF seeks to keep by its recommended dispersal.

On the other hand, the industry now has built up great investments in its home plants on the coast, as well as transportation facilities and sources of supply. A feared disintegration of these is one factor militating against the industry's voluntary acceptance of widespread dispersal.

## Hydraulic Drive Unit Built by Northrop

Development of the first aircraft hydraulic drive may be credited to Northrop Aircraft, Inc., at Hawthorne, Calif.

Because it was designed as a part of a still-nurtured airplane project, the existence of the de-

### 10,000-hp. Motor Seen

Base for future creation of as great as 10,000 horsepower is seen in the gas-turbine aircraft engines being built by General Electric Co., by Harry A. Wynn, GE vice-president in charge of engineering.

In making his prediction, Wynn explained he was not establishing a limit to their development, adding that research and engineering alone will determine this, but the heavens appear to be limitless.

vite, similar to hydraulic drives used in automobiles, could not be perfected until now, although it has been in flight for at least two years.

**► Flywheel Action**—The fluid drive couplings were installed in experimental models of "living wing" designs carrying two 300 hp. engines.

Northrop engineers report the fluid drive, developed primarily for use with extension shafts on engines of low horsepower, serves as a flywheel as well as in damping out torque impulses of engines having a small number of cylinders. A definite weight saving was realized in allowing the use of a relatively light weight extension shaft. A dip loss of 2½ percent between driving and driven shafts within the hydraulic drive elimi-

ner was not considered excessive in view of advantages gained.

**No Statement**—Northrop officials gave no indication of whether they will or will not attempt commercial manufacture of hydraulic drive units for light aircraft.

Although the principle of hydraulic drive has been appealing to a number of aircraft designers, and several years ago a Chinese announced intention to develop a hydraulic drive unit, the Northrop company apparently is the only one to have actually tested the idea.

## ATA Offers \$50,000 for Surplus C-54's

Four-point counter-proposal to SPA reflects airlines' reluctance to gamble on fuselage value of C-54's.

Disputed with a Surplus Property Administration suggestion that they purchase surplus C-54's outright at a price of \$13,500 for the C-54B, type available in greatest volume, the airlines through the Air Transport Association are replying with a proposal that the purchase price be set at \$50,000.

Other features of the four-point counter-proposal are that the planes be leased at a conversion allowance of \$100,000, or 90 per cent of the original \$300,000 basic purchase price, instead of the \$125,000, or half, hereafter allowed. The airlines also are asking that the lease contain a "most favored nation" clause permitting them to take advantage of any better terms than those being offered elsewhere in the next two years. As the fourth point, they propose that conversion costs be averaged to cover an entire fleet, rather than individual planes.

**► Contrast**—While the \$50,000 outright purchase offer is a considerable contrast with the \$125,000 proposed by W. Stewart Symington, Surplus Property Administrator, it reflects an airline feeling that the carriers cannot afford to gamble on the residual value of the 54's two years hence Symington's figure, ATA says, was based on the \$300,000, less 80 percent for conversion, less 25 percent for cash and so as an inducement to buyers.

The airlines feel that with conversion costs running higher than had been anticipated, the \$50,000 is a fair figure, particularly in view of the present lease figure of \$24,000 a year.

## Meteor Sets 606-mph. Record; NAA Establishes Racing Classes

Stripped-down British jet fighter still falls short of 640-mph. reported in earlier test; U. S. action will regulate forthcoming air meets.

With the establishment of an unofficial world's speed record of 606 mph by a jet-powered Gloster Meteor, the British last week took top billing in a series of nations indicating the increasing interest in the revival of aircraft record attempts.

Of almost equal importance, if not as startling, was the establishment by the National Aeronautics Association and the Fédération Aéronautique Internationale, world governing body of records, of two classes of sanctioned air meets:

**► Class A**—Class A will be open to planes of all types, including special racing versions. Class B will be limited only to stock model aircraft bearing NC numbers. Reason for the distinction, it is explained, is to strictly the testing of small size aircraft in the hands where the usual entries are stock models.

The new classification is not expected to have any effect on air meets, which the National Air Races, which traditionally attract aircraft especially designed for racing. It also is emphasized that the division of types applies only in this country, as the NAA contest board has no power to set standards for international record attempts.

**► British Attempt**—While there have been no standards established to govern national or international record attempts for jet planes, the British sought to set a new world speed mark. World record trials are not limited to aircraft of any particular type or description.

**► Rules**—Requirements for world speed record attempts are that the airplane make four consecutive runs over a measured three kilometer course (approximately two miles) at no greater than 1,300-foot altitude. Official result is the average of the four runs.

On one of the four runs, the record-breaking Meteor touched 612 mph, considerably in excess of the reported 440-mph speed achieved by a Meteor in a previous effort to set a new mark, but at the same time far above the exist-

ing record of 466.22. The British are planning to try for an even greater speed before asking FAI to recognize a new record.

**► Standard Fighter**—The plane was a standard RAF Meteor fighter, which is said to be slower than the later British jet planes, the Vampire. For the record attempt, however, it was stripped of armor and armaments.

In this country, manufacturers of jet planes were reported as declining that stripping a fighter down, and putting aboard just enough fuel to make the flight, added about 80 mph to the speed.

**► Debate**—Whether jet planes will have a place in future air meets, either in competition against jets or conventionally-powered aircraft, was debated at the meeting of the NAA contest board, but no decision reached.

Even performance of planes powered with reciprocating engines have outstripped the existing record standards, one instance being that the closed course generally used in far less light to permit pilots safely to attain top speed.

**► Major air meets coming up**, the All-American in Miami in January, and the National in December next summer, may feature jet races, but for national records only. International standards are set by the FAI, the contest committee of which will not meet before those races.

**► Doodle Flight**—As an aptrophe to assumption of record

### Board Set Up

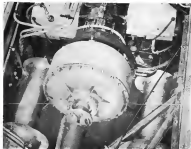
A joint technical board to coordinate cooperation of the technical committees has been formed by the Aircraft Industries Association. Composed of leading engineers, the board will reconcile policy and procedures on matters of interest to two or more of AIA's technical committees, on aircraft, engines, propellers, and accessories and equipment. Board members are: Woodrow Beall, Bonaparte Wright Perkins, Fred A. Whitney, Eric Martin, Hamilton Standard Propellers, R. P. Lansing, Bendix.

activity, a B-28 commanded by Lt. Gen. James H. Doolittle last week landed at Washington National Airport after an 8½-hour, 56-minute flight from Oakland, Calif. It was one minute, nine seconds short of the April, 1944, unofficial record of a Lockheed Constellation.

The Doolittle flight came on the heels of the successful second attempt by AAF to fly four B-29's nonstop Japan in Washington. While distance, 6,944 miles, was short of the official world's record of 7,138 miles set in 1935, AAF revealed it intends to fly B-29's nonstop from Japan with the hope of breaking Puerto Rico, which if accomplished, would exceed the old mark.

## Edward Goodman Sperry, Inventor's Son, Dies

Edward Goodman Sperry, vice president, treasurer and a director of Sperry Products, Inc., died last week after several months' illness. He was a son of the late Dr. Elmer Anderson Sperry, inventor of the gyroscope and founder of the Sperry Gyroscopes Co.



**Aircraft Hydraulic Drive:** This hydraulic coupling is the "fluid drive" attachment adapted to aircraft by Northrop Aircraft engineers, to cut down vibration by eliminating the direct all-metal connection between airplane engines and propellers.



**Carrier-Based "Meteor":** One of the first instances of experiments in operating jet planes from aircraft carriers has been undertaken by the British with the Gloster Meteor. Initial trials were confined to taxiing the Meteor along the flight deck, as shown in photo, to observe effect of the fiery blast.

## Experts To Discuss Air Future At Clinic

Speakers at Oklahoma forum, Nov. 19-21, expected to debate steps needed to realize industry's full potential.

Steps by which the U. S. aviation industry can recover from the industrial depression which has followed the end of World War II and realize the future potential of mass air transportation and personal flying will be debated by leading scientists, engineers, executives, educators and military and civilian flyers and new leaders at the third annual National Aviation Clinic (Nov. 19-21) at Oklahoma City.

Constituting as served as a national annual forum for all aviation interests the clinic will give special attention to such subjects as jet propulsion, supersonic speeds, the release of atomic energy and other new discoveries which will have a vital bearing on aviation's future. Also listed for discussion are military air policies, reconnaissance planes, private plane design, public financing of airports, airways for private flying, aviation legislation and flight training.

**Kerr Presides**—Jointly sponsored by the National Aeronautics Association of the State of Oklahoma, the clinic will have Oklahoma Gov. Robert S. Kerr of Oklahoma as its chairman, and NAA President William H. Inghart, New York, as presiding officer.

## Many Key Positions Filled During Week

Executives returning from active service in the war, government appointments and executive appointments featured personnel changes at the end of the week.

**Jay Moulton**, confidential assistant to Jeth Lee, member of the Civil Aeronautics Board, has left that post to go to Montreal, where he will assist in organization of the Air Transport Bureau of the Provisional International Civil Aviation



Organization secretariat. When the organizational work is completed, he probably will remain in Montreal as executive assistant to

## PCA Buys 20's

Pennsylvania-Central Airlines is announcing today the purchase of 37 Martin 20's airplanes costing \$7,000,000, with deliveries to start early in 1947. This is the first public disclosure of an order for the high-speed Martin transport, designed especially for short hauls on trunk routes.

PCA presumably will use the ship for the type of traffic. Although its cruising speed is estimated at 180 m.p.h., the 20's was designed to operate most economically over distances of from 50 to 70 miles. Planned to seat 20 to 42 passengers (Aircraft Digest, Sept. 2), the version PCA is contracting for will carry 40 passengers.

With the BEE building short-haul traffic, the airline's first of C-54's—12 of which are being converted by Glenn L. Martin Co.—will carry traffic on non-stop flights.

Gerold Murphy, U. S. delegate to PCAG, or with the Bureau. Before joining Lee's staff, Murphy was with Continental Air Lines for four years, but in an executive capacity, and prior to that was with United Air Lines on the West Coast.

**Wendell Coombs**, president of Aeronautical Training Society, has resigned to become assistant to Sam H. Beards, chairman of the War Relocation Authority. Coombs, a subsidiary of RPC to handle all surplus defense materials also is a member of the board of the RPC. Coombs will assist him in both activities. Coombs joined ATIS when it was formed early in the war from BEC.

**E. G. W. Wright**, senior vice-president of Curtiss-Wright Corp. and executive vice-president of Wright Aeronautical Corp., has returned to the presidency of the Russell Manufacturing Co. of Middletown, Conn. Wright joined Curtiss-Wright in 1943 to assist President G. W. Vaughan in meeting the rigid production schedules for aircraft engines, propellers and airframes. He previously had served as assistant to the chairman of the board of Consolidated Vultee Aircraft Corp., while on leave from the Russell firm.

**Col. Robert J. Smith**, formerly vice-president of Boeing Airways before leaving to go on active duty with the Army, has returned to the airline as a vice-president and will have charge of the expansion and route development program. Col. Smith, who was in charge of operations, probably negotiated the first airline military operations contract with the Army, setting up the Boeing-Vought Joint Army-Corps operation in the Pacific. He served as headquarters of AAF and later as deputy commander of the Central Airline wing of ATC and the North African division.

**Dwight S. Wallace**, who has been associated with Cessna Aircraft Co., since 1938, has resigned as executive vice-president and treasurer effective Dec. 1. He will return to his law practice at Tulsa, Okla., with his brother, Duane L. Wallace, Cessna president, became associated with the company when the two brothers purchased control of outstanding stock in 1934. Frank A. Roegner, secretary-controller since 1942, will become treasurer. Roegner came to Cessna from GM.

## New Book Presents Uncensored Air Data

First comprehensive survey of aviation statistics since listing of war-time censorship of "Aviation Facts and Figures," compiled by the Aircraft Industries Association and published by McGraw-Hill Book Co.

Edited by Dr. Randolph Medley, director of research for the committee, the book's 16 chapters of 226 charts and tables, definitions and descriptions contain a veritable encyclopedia of air-age data.

**Harold D. Day**, the author, is such standard reference topics as aircraft production, employment, passenger-miles, earnings, exports, etc., the book also lists such figures as average overseas life of a performance, performance improvement in aircraft since Pearl Harbor, aircraft profits and average expenditure for transportation per family.

Preface to the first annual "Aviation Facts and Figures" was presented by Eugene H. Wilson, president of the Aircraft Industries Association and vice-chairman of United Aircraft Corp., who warned that in the event of another war, the aircraft industry might have to repeat its war-time production miracle in one year instead of five.

## PRIVATE FLYING

### Small Seaplane Bases Expected To Multiply in Next Few Years

Development of low-cost facilities likely as manufacturers report mounting public interest in craft capable of landing on water.

By ALEXANDER M. SURELY

Mounting public interest in personal planes capable of water landings, whether amphibians or landplanes converted with floats, which is being reported by aircraft manufacturers is likely to be reflected within the next two years by a considerable expansion in the number of low-cost seaplane bases throughout the United States.

Pre-war, CAA interest in development of seaplane bases for private flying resulted in a four-year program in which 300 small seaplane bases were built in 25 states. Most of the docks were built by NYA workers, using materials supplied by local governmental units.

**Why Harbors** — It cannot be denied that a sky harbor, as the Personal Aircraft Council has designated the perished plane water landing facility, in many cases is the most practical answer to the problem of low-cost landing area close to the downtown section. Actually, minimum facilities which can be expanded as needed can be provided for approximately \$500, if the operator or community has the available lake or river.

**Need**—The need for community provision for seaplane landings is emphasized in a recent letter from Earl D. Gehron, president Edo Aircraft Corp., to Senator Pat McCarran, in relation to the National Airport bill.

"In no way do wish to minimize the need for in-town and non-metropolitan landing strips. Construction of these land facilities is the greatest need of personal aviation," Gehron wrote.

"We merely wish to bring out these points:

"No overall appropriation for providing aircraft facilities would be complete without some provision for seaplane bases."

"Seaplane bases can be provided for more easily and hence towns with water facilities at an expense representing probably less than 1 percent of the total appropriation of your bill."

"Seaplane bases can be built almost overnight and thereby front yard facilities can be provided without long delay in land condemnation, airport construction, etc."

**Accessibility**—Others point out a seaplane can land in the Mississippi River four miles from downtown St. Louis, or at Chicago within three minutes walk of the Loop. Fleets of seaplanes have been operated for years successfully at such inland cities as Charleston, W. Va., and Pittsburgh.

William D. Strohmeier, veteran private pilot and aviation writer, reports that the most interesting facts about his recent footless trip to various New England seaplane bases is that, and errors was the attitude of seaplane student flyers. Security of flying over water with a "30-mile runway" where you can shoot 10 or 20 landings an hour, is such that some of the students wonder if they would ever want to fly a landplane, he says.

**New Flares**—Principal exponent of the amphibian in post-war days as a personal plane, Grumman Aircraft Corp., is up against some stiff lower-priced competition, as seen at post-war planes start rolling. Most publicized thus far is the all-metal four-place Republic Seabee scheduled to sell for \$3995.

Commercially, Grumman has its three-place twin-engine plywood Thrasher amphibian to enter the field, which is expected to sell for "near the price of the higher-priced motor cars."

Both Aerochem and Piper have made some amphibians design

## Tennessee Advertiser

An invitation to "Remember Tennessee in your Aviation Planning" is being broadcast to aviation interests in the form of a professional leaflet issued by the Tennessee Bureau of Aeronautics.

Among other things the leaflet says:

"Whoever you are flying, Tennessee has a proper airport ready for you. Wherever you want to go throughout the state—almost—there is a good airport."

"More Planned"—The state now has 4 Class C airports, 18 Class B, 6 Class D, 3 Class E, and three Class V. And of 35 new air fields proposed, 10 will be airports for the private flyer. "We need more and we are planning more."

The leaflet adds: Some of the fields will be near historic sites and mount peaks. Others will provide good sites for adjusting the airports.

studies, including the tray Applecote amphibian in which Pope was interested. Little-known, and not yet definitely committed to production, is the Goodwin Aircraft amphibian which started out as a two-place plane, but is reportedly being redesigned to carry four.

**Conventions**—Still another interesting aspect of the seaplane picture is the fact that by using floats instead of wheels, one can almost any of the standard small landplanes can be easily converted for water landings and takeoffs.

The State organization, which was the best known pre-war float builder, reports it is now making "turns" orders on hand right now.



ERCOUPE PANEL:

Instrument panel of the Neo 75 Krucop, shows dual control installation, radio and conventional instrument groupings readily suitable to either occupant. Principal additions to the pre-war Krucop control arrangement a starter button, and a footbrake pedal, not visible.



for a third more Model 60 boats than the company built in an entire year before the war. The boats were distributed per-war through manufacturers, while Ed's post-war merchandising plan calls for an organization of field distributors.

► **CAA Approval**—The Model 60 boat, which is designed for two-place planes of Piper, Aeronca, Luscombe, and Taylorcraft type, has CAA approval. While first production will be limited to the Model 60 boats, several other boats of heavier displacement for larger aircraft will be in production within the next six months. The company is planning production at an annual rate "several times greater than the highest pre-war year."

Prior to the Model 60 boats complete, with struts, rudder, cables, etc., is quoted at \$995, an increase over the pre-war price, attributed to higher labor and material costs. Company executives hope large scale production savings may make it possible to cut this price somewhat in the next year or later.

► **Average landplane flyers do not appreciate the construction problems of making a fast which is aerodynamically perfect, aerodynamically streamlined, and remains leakproof under strains and stresses of water landings and takeoffs.**

► **Dock Plans**—Establishment of a small seaplane dock, with gate, mooring facilities, appears after the most economical means of setting up as an airport operator. Communities or individuals interested in obtaining more details about requirements for "sky harbors" may obtain a booklet with drawings showing various types of seaplane facilities, from the CAA information division, Commerce Building, Washington, D. C.

## School Proposed

Proposed to establish a federal school for training state aviation accident investigators, similar to the Federal Bureau of Investigation school for local and state police officers, was made by Oswald Ryan, CAA member, at the St. Louis NASAB convention last week. Such a school, he means, uniform investigating and reporting of private flying accidents which he expects soon to become a feature of state officials. He said the CAA would make its facilities available for such a school.

## Ryan Sees Need For State Aid In Enforcement As Aviation Grows

CAA member tells NASAB convention it is considering request for legislation to allow state agencies to carry out federal rules and investigate accidents.

If private flying increases as much as is anticipated state aid in enforcement of federal regulations may be needed, Oswald Ryan of the Civil Aeronautics Board, told members of the National Association of State Aviation Officials, last week, at the St. Louis NASAB convention.

Ryan said the board is considering asking Congress to draft legislation which would permit state agencies to enforce federal regulations and make accident investigations, thereby relieving some of the burden on the overworked Civil Aeronautics Administration. He said present enforcement methods would be inadequate with the anticipated expansion of aviation.

► **Rises** — Hundreds of airports formerly used as military training fields and bases will be transferred to cities and towns "virtually as gifts" under a program worked out by the Reconstruction Finance Corp., George Bosman, assistant director of disposal, review and research for the Surplus Corps, modified Administration, told the convention.

The fields involved, he said, have been declared surplus military property by the government. They represent investments well in excess of \$5,000,000,000.

They range from small fields with turf surfaces, used for preliminary or primary flight training programs, to large and elaborately equipped airports, Bosman said. In many other cases they are airports which were formerly privately or municipally owned, and which were substantially improved and enlarged after being taken over by the armed forces.

► **Conditions**—All facilities, including hangars and other buildings and equipment of all types, as well as landing areas, will be included in the disposal program, he pointed out. In the case of one southern town even a completely-equipped hospital is listed, he said.

The cities receiving the fields must agree to keep the airports in operation, make them available for use by the armed forces when needed, and fulfill certain safety regulations included in transfer

## Anderson Elected

William L. Anderson, Burlington, Pa., director of the Pennsylvania Aeronautical Commission, was elected president of the National Association of State Aviation Officials at St. Louis last week, succeeding Sheldon B. Steere, Lansing, Mich., Michigan aeronautics director. Other officers elected were Leo Devoson, Portland, Ore., and Clarence Cornish, Ft. Wayne, Ind., vice-presidents, and Edward Knapp, Montpelier, Vt., secretary-treasurer.

agreements by request of the CAA, Bosman said. Where a sale price is set, the amount will be neutral. Complete details on methods of acquiring airports involved will be announced in the near future he said.

► **Marking**—Max Blanche Noyes, CAA air marking specialist, pointed for cooperation of state agencies in a uniform air marking system for towns throughout the United States.

With the anticipated increase in civilian flying, the need for marking will be imperative if accidents are to be kept down. Sheldon B. Steere of Lansing, Mich., retiring president of the association, said a committee would be appointed to work with Miss Noyes in the program.

► **Construction**—State aid to municipalities in building airports was advocated by Clarence Ludwig of Minneapolis, a member of a special committee of the American Municipal Association.

"State governments should develop state airport plans cooperatively with the CAA," Ludwig said. "States should allocate revenue for furthering an airport program by levying taxes on gasoline, and requiring registration fees for aircraft similar to those for automobiles."

"In addition, the states should make some contribution from general revenue. Municipalities, largely dependent on property taxes,



“He got his training in a ball turret!”

Never before in the history of flying have so many American men and women been trained to build, fly and maintain aircraft. Even discounting those who will move to other occupations during the recession period, we have manpower in surplus even in the air, both from a military and a commercial viewpoint.

Non-over, other nations also have good air fleets and trained personnel. The question of who will carry the world's air commerce is likely to be the subject of international bargaining for many years to come. The nation which consistently produces planes that can be operated at a lower cost will have an "edge" in such bargaining.

In developing post-war commercial aircraft, American manufacturers will enjoy our important advantage over foreign competitors. The United States today can produce more high-

octane gasoline than any other nation. We have the crude oil, the refining capacity, and facilities for producing large quantities of Ethyl air-turbine fuel. Commercial quantities of between-100-octane gasoline could readily be produced.

By developing engines to fully utilize this superior gasoline, American aviation people can give U.S. commercial planes superior performance and economy . . . important factors in the final determination of who shall eventually have the upper hand in powerful competition.

**Ethyl Corporation**

CHRYSLER BUILDING, NEW YORK CITY  
Manufacturers of Ethyl fuel, used by oil companies to improve the antiknock quality of aviation and motor gasoline.

are financially starved and cannot afford to subsidize aviation."

Les Bell—John Hunter, director of airport issues and requirement services, CAA, discusses a provision of the Les Bell, which has passed the House, which prohibits the granting of exclusive franchises for sale of gasoline, oil and accessories and rental of hangars at airports built partly with federal funds, which the bill would provide.

Based on this provision was the redrafting of airports to include buildings as well as the actual landing area. CAA speakers from the floor said, would find it virtually impossible to operate airports and small airports for which federal aid was obtained because few would have enough business to support more than one operator and unless an exclusive franchise were granted none would be able to furnish needed services.

The meeting was attended by about 100 delegates representing state aviation agencies in 36 states.

## Fairchild Offers Parts

Purchasers of surplus Fairchild M-63 (PT-19, PT-53 and PT-85) primary training airplanes may now obtain spare parts from the Fairchild Airplane Division, Harrisburg, Md., and through a national system of distributors and dealers, the company has announced.

The parts were designed and manufactured by the company, and are being sold under an agency agreement with Reconstruction Finance Corp. at prices approved by RFC. The company also is supplying support of the dedicated AAF illustrated spare parts outline for the plane, tree-of-charge as long as the existing supply holds to contents of the surplus plane.

Major Parts—In addition to selling components the parts offered include main doors as wing outer panels, center section, fuselage bottom fairings, etc. The outer panels are priced at \$550, the fuselage bottom fairing at \$18.

Parts sold are warranted by Fairchild to be "as shown" in the parts list in material and workmanship under normal use and service" and will be replaced at the factory if found defective within 90 days.

## Briefing For Private Flying

Midwest's recent opening of its downtown lakefront landing strip, Mather Field, just 15 minutes city well up in front of most aviation its use or larger as far as close-in landing facilities for personal-type planes are concerned. The field was restricted to small plane use after having been abandoned years ago as too small for airline use. Fortunately it remained public property during the interim, and an expenditure of approximately \$15,000, together with use of city road-building machinery, put the strip back in shape for designation by CAA. Equipped of the increased utility of the small plane made possible by a downtown landing facility was the first flight from the field a commercial trip by a Midwest Airways, Inc., Piper Cub, carrying merchandise for delivery from a Milwaukee store. Twenty-two planes, including five Navy PTs, landed on the field at the official opening.

FLYING WANT-AD MAN—Alex J. Savin, advertising salesman for the San Diego Daily Journal, covers his advertising beat by plane two days a week. Savin makes the rounds of airports in the San Diego area every Saturday and Sunday in his Cessna "Cadet," to round up ads for planes for sale, flight schools and similar business. Much of his work is surviving regular customers under contract. In one hour and 45 minutes recently he made a round trip from his home field, La Mesa Airport, to five other airports, doing some business at each stop, and covering a distance that would have taken all day in a motor car. Savin, who served three years with the AAF in the European and Chinese-Burma-India theaters before discharge last June, thinks he may be the first newspaper advertising man in history to cover a regular beat by plane.

SLOWER AND SAFER—Engines in most of our present-day light-planes have sufficient power to enable the aircraft, if properly designed, to sustain flight at 33 mph. CAA's private flying committee, John O'Connell reports. Up to the present, however, there has been very little research. So the private plane field to develop a combination of airfoil and power to sustain such slow flight. Lateral control sufficient to overcome the effects of gusts of wind at low speeds would be necessary. But the safety advantages of having a plane which could slow down to 33 mph in flight during poor visibility, or when the pilot was lost are obvious, and warrant additional technical study on making personal planes go slower as well as faster. The German Fieseler Storch, exhibited in this country pre-war, was credited with a maximum flying speed of 32.5 mph. The experimental Ryan Dragonfly and Bellanca and Stinson Lancer planes and the experimental Lockheed Little Dipper probably have done even better. Greise believes there will be many conservative pilots willing to trade a few miles of top speed performance for a few miles of slower flying speed.

PLANE USED IN STRIKE—Probably the first use of an airplane in a labor dispute was reported in a recent hearing at Union, granting out of a recent strike of the Teamsters' and Chauffeurs' Union against traffic profanees and greengrocers. Fred Austin, Boulder truck line operator, testified union members picketed his garage, and followed his drivers who were hauling milk to Denver. Austin, a private flyer, and he took his plane and paralleled the Denver-Boulder highway by air while his trucks were on route, to see that they were not stopped or harassed.

BOX LUNCH PLAN—"Plane for a 'fitebux' lunch service for private flyers which will enable the private pilot to radio ahead to have his lunch prepared, pick it up on arrival at an airport having the service, and himself again without mealtime lost, have been announced by James K. Dobbs, airport restaurant operator of Memphis. Dobbs operates airport restaurants at nine fields—Chicago, Dallas, Birmingham, Memphis, Jacksonville, Wichita, Shreveport, Amarillo, and Jackson, Miss., where the service is being started, and it is expected to be extended to other fields. Dry ice and thermos bottles, and special paper containers are provided, with lunch prices quoted at \$10 to \$14.50 depending on selection.

—Alexander McCurdy

# New Protector & Depth Gauge

## Ends Drill Breakage!

...gauges depth of hole, speeds drilling, saves time



...dimples drive drill close to point where work is being done

Now you can drill faster—and we're sorry about breakage! The new Hartwell spin-shank drill protector & depth gauge protects your drill at the weakest point. And it lets you set your drill for any desired depth.

The Hartwell drill protector & depth gauge is available in 16 standard sizes from 1/16 through 1 1/2" Shaft 1/16 through 1 1/2" outside diameter to fit standard drill chucks. Larger sizes are held to 3/4". Hartwell also manufactures extensions in chucks in the above range of sizes, together with rod lengths of 6" and 11".

ASK YOUR JOBBER about the new Hartwell drill protector & depth gauge, extensions and angle chucks.



1. Dimples drive drill close to point where work is being done. The dimples are 180° in the nose, drive the drill. They fit the drill flutes, placing the driving forces near the point of the drill.



2. Gauge controls depth. Any desired drilling depth can be set by protector & depth gauge. Simply spreading drilling. Standard sizes protect drilled section.



3. Tight chuck. The shank of the protector & depth gauge is split to permit the chuck to lock the drill in any desired depth setting.



4. Straight chuck or broken drill. Either straight chuck or broken drill, without shank, can be used in the protector & depth gauge.

Single source for **777** products parts and tools

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**"Lease-Lend" Hangar:** Prefabricated hangar to be built by U. S. Aero-plane Company, Inc., Baltimore, for private plane storage is shown in the artist's drawing. Made in 14-ft. sections, the shelters will be erected in groups of ten or more on any airport, the company states, if the airport operator agrees to charge a standard hangar rental and pay a portion of the back to the manufacturer for six years, after which the hangars become his property.

## 'Lease-Lend' Hangars Offered Operators

Prefabricated individual structures would be placed in bulk free of charge, paid for from rentals.

"Lease-lending" of prefabricated hangars to airport operators is suggested by T. W. Murray, president of U. S. Aero-plane Co., Inc., Baltimore, as one answer to the shortage of lightplane hangars.

USAC now has on hand sufficient material for making 3,568 prefabricated hangars in a variety of materials including steel, coated metal, wood and composition. The company plans to produce 1,900 units a year after the first year.

**No Initial Costs:**—The company offers to set up a maximum of ten hangars on any airport in the country without cost to the operator. He in turn must agree to charge a "normal standard monthly hangar rental" for use of the hangar and to remit a portion of this to USAC, retaining a substantial portion for himself. At the end of a six-year period the airport operator automatically acquires title to the structure.

The "X"-type individual hangars are made in 14-ft. sections, which make possible many field arrangements. They may be dismantled for moving to other locations.

**Advantages:**—The company

points to the advantages to the private owner of the individual hangar with storage space for tools and equipment which may be locked up with the plane, and the decreased hazard of damage to the plane from fire or collision with other planes in a common hangar. Murray is hopeful that his company's action will bring about a reduction in hangar rentals to the private flyer, thus making it possible for more people to own private planes.

As a corollary to the "lease-lend" arrangement, USAC also is offering to shelter private planes for a nominal monthly rental in individual hangars at the company's Dover Air Park, on U. S. Route 11, north of Baltimore. It agrees to apply rental payments against the purchase price of \$100 (including erection of the hangar) in the event the plane owner later decides he wants to buy his own hangar for use at another location.

## Minnesota Plans Lag In Licensing

Although Minnesota's new airplane licensing law became effective last July 15, more than 100 of the estimated 350 private planes in Minnesota remained unlicensed. L. E. Schroeder, state aeronautics commissioner, reported recently. The state plans to start several test cases soon to bring in the delinquent plane owner.

## Accident Study

A study comparing pleasure flying accidents in the first six months of 1945 with those in the same period a year ago, shows a steady increase in the number of lightplane mishaps.

Causes for the increase are seen as:

- Development of returning military pilots, used to flying heavy or fast performance aircraft, and now piloting lightplanes.
- Pre-war pilots, stale from lack of practice, returning to flying now that strict restrictions have been lifted.
- Growing number of student and private pilots.

Comparative figures, as compiled by the Accident Analysis Section of the Civil Aeronautics Board Safety Bureau follow:

Month	Light Aircraft (up to 12,500 lbs.)	Medium Aircraft (12,500-40,000 lbs.)
January	30	15
February	20	14
March	22	12
April	32	13
May	48	20
June	41	20
Total	193	104
January	25	16
February	28	18
March	18	20
April	32	30
May	66	37
June	70	64
Total	289	185

Flyers are asked to curtail accidents by these safety precautions:

- Ask for a check ride.
- Review Civil Air Regulations.
- Remember that the plane was designed for peaceful flying.

While planes not in use may escape the licensing fee, their owners are then liable for personal property tax on the aircraft, which in most cases will amount to more than the plane license fee. Schroeder warned. The Minnesota license amounts to 1 percent of the full value of the plane with a \$10 minimum. Delinquent penalties are 25 cents a day up to a maximum of \$2.50.

**Payment Measure:**—The license law, and two other revenue measures passed by the 1945 Minnesota Legislature are being used to pay off a \$25,000,000 airport bond issue, which the state is using to finance airport developments in various communities. After this has been paid off, the receipts will



## The "lighter touch" in landings

Swooping in smoothly on emergency runways results from consummate skill by the pilot combined with efficient shock absorption by Aero landing gear. • Aero have contributed to aviation's progress for almost 20 years, and new units now being developed for future giants of the sky, testify to the importance of Aero in post-war aviation. • Our products, serving many industrial fields, are mentioned below. Whatever your needs, Cleveland Pneumatic engineers offer you the benefit of over 50 years manufacturing experience.

THE CLEVELAND PNEUMATIC TOOL CO., Cleveland 8, Ohio

Buy Victory Bonds!



be used for additional airport facilities.

The other revenue measures are: an aviation gasoline tax, on a sliding scale of 6 cents a gallon on the first 20,000 gallons used each year, and dropping to 4 cents for each additional 20,000 gallons used, until it reaches a 4-cent minimum for all above 200,000 gallons used annually; and an airline flight property tax assessed as of Nov. 1 and payable on Jan. 1 as a basis of a complicated formula which eliminates all other personal property taxes on airline flight property.

## 29 Private Planes Licensed By CAA

Civil Aeronautics Administration has issued 29 additional new airworthiness certificates for private planes, purchased by individuals and firms from military surplus.

List of the aircraft members, buyers, make and model of plane and engine, and date of manufacture follows:

- NC 40814—William D. Scott, 315 Route 100, New Canaan, Connecticut, April 14, 1959.  
 NC 40815—Charles R. Smith, 125 E. 20th, Apt. 10, Buchanan, Calif. America, Continental, April 14, 1959.  
 NC 40816—V. C. Chapman, 145 Westwood Way, Ridge, Calif. America, Continental, April 14, 1959.  
 NC 40817—R. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40818—R. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40819—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40820—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40821—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40822—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40823—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40824—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40825—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40826—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40827—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40828—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40829—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40830—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40831—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40832—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40833—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40834—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40835—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40836—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40837—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40838—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40839—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40840—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.

## Little Dipper

Lockheed Aircraft Corp. has been ready for test flight since the experimental prototype of a two-passenger personal airplane. It is expected to show the best features of the company's experimental "pocket-jet" in the one-place Little Dipper, but with one critical difference: the engine will be behind the cabin, turning a long propeller shaft, to give the pilot maximum view.

**A-1000's Out**—While Lockheed is endeavoring to keep its personal plane low under wings, as many pilots have flown the Little Dipper and so many have seen it flying at Lockheed Air Terminal and elsewhere that a brief description of its salient features is well known.

The tiny plane weighs less than 500-lb. empty and is mounted with a 30-hp. modified Franklin engine. It has a top speed of about 180-mph; cruise at 58, will maintain flight at 33, and lands at around 30-mph. Its structure is of minimum complexity, with an exceptionally small amount of riving in its two-piece shell fuselage. There are only four ribs in each wing structure.

Portland, Maine, formerly with Cessna, does company demonstrations, one being a spectacular "hang" takeoff after a run of 120-ft. When a rolling speed of 25-mph has been reached the plane is swung down and the Dipper bounces upward with a helicopter effect.

- NC 40841—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40842—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40843—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40844—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40845—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40846—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40847—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40848—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40849—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40850—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40851—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40852—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40853—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40854—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40855—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40856—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40857—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40858—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40859—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.  
 NC 40860—J. E. Kline, 414 N. Monroe, West Amana, Connecticut, April 14, 1959.

## Flyers To Discuss

### Air Regulation Plan

Private flyers, representing organizations and as individuals, will convene in Washington Nov. 28-29 for a **Joint Private Flyers Conference** scheduled for the **Hotel Statler** under sponsorship of

the National Aeronautic Association, William B. Stout, RAA vice-president in charge of private flying, will preside.

Tentative program calls for discussion of federal, state and local regulations on flying leading up to an effort to draft recommendations for a practical coordinated state and federal regulatory program.

Other subjects will include: lack of airports for the private flyer and community attitudes toward airports; the private flyer's place in air defense, private plane design and equipment, local community flying organizations air tours, standard airport traffic patterns and procedures.

Groups expected to be represented include: Aircraft Owners and Pilots Association, United Pilots & Mechanics Association, Sportman Pilots Association, Civil Air Patrol, local flyers' groups such as the Aero Club of Washington, and representatives of manufacturers, and state and federal regulatory officials. The conference is limited by space to 200 persons.

Arrangements have been made for free plane tie-down privileges for pilots wishing to fly to Washington for the conference, at Congressional airport, Rockville, Md.; Hyde Field, Clinton, Md.; College Park airport, Bethesda, Md.; and at Ryba Valley airport, Alexandria, Va.

## Continental Delivering Three New Engines

Start of deliveries of three new six-cylinder aircraft engine designs ranging in output from 100 to 115 to 125 horsepower has been announced by C. A. Rose, president of Continental Motors.

These engines follow the familiar air-cylinder design used by the company and now produced in 25, 75 and 85 horsepower sizes. **Here Made-In-Rome** and their first new year four more six-cylinder horizontally opposed engines will be available in 150, 165, 180 and 210 horsepower sizes.

In addition to aircraft engines for lightplanes, the company is producing a seven-cylinder radial engine, R-470, made before the war and rated at 258 to 268 horsepower. Continental also has a new six-cylinder radial rated at 258-hp designed for feeder-type

# Home for Thanksgiving

...IN YOUR NEW SILVAIRE!



Y.E.S., steady ownership of a personal plane is turning pre-war dreams into post-war reality!

Not just any plane, of course. But an ALL-METAL SILVAIRE! A safe air-worthy job that gets you there—cheaply and quickly.

The new ALL-METAL SILVAIRE is Luscombe reflects once again the proven leadership of this pioneer—the very first company ever to build ALL-METAL personal planes!

For the thrilling Silvaire makes a hap-

py trip a pleasure trip—a pleasure trip a real joy ride! And here's a plane in the clouds for quality but down to earth for price. Because of its construction—ugged ALL-METAL—it is durable and has a high trade-in value, too.

Style? Looks? Performance? The new SILVAIRE will excite you... mail the coupon below for free, descriptive folder.

# SILVAIRE

AMERICA'S FIRST ALL-METAL PERSONAL PLANE

BY LUSCOMBE

LUSCOMBE AIRPLANE CORPORATION  
 Sales Promotional Department, Inc.  
 Trosson 7, New Jersey

Please fill out name, address, and the SILVAIRE.

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 Street \_\_\_\_\_  
 City \_\_\_\_\_

## PRODUCTION

### Cost-plus Aircraft Procurement Being Dropped As General Policy

Bulk of Navy purchasing will go back to pro-war basis; both services to allow exceptions only for experimental and research work or in unusual circumstances.

The cost-plus-a-fixed-fee type of contract for procurement of aircraft is an old way out except under unusual circumstances and in certain instances of experimental and research development work.

The Navy's Bureau of Aeronautics has halted procurement of aircraft on the wartime cost-plus basis except in the cases mentioned and the bulk of aeronautical purchasing will be on the pre-war basis of competitive and lump-sum contracts. The same policy will apply for the procurement of new facilities.

**Army Plan**—The Army has decided to use the cost-plus method on experimental work. On production contracts, the Secretary of War, under proposed legislation,

would be authorized to enter into them on either a competitive bid or negotiated basis.

Under the new Navy order, any exceptions to the lump-sum contract policy will have to clear through the office of the Chief of the Bureau of Aeronautics.

**Navy Policy**—The general Navy policy is this:

On production contracts—no cost-plus contracts will be approved.

On research contracts—cost-plus contracts may be approved.

On research, development and experimental contracts—every effort is to be made to reach a lump-sum contractual agreement but failing to arrive at a satisfactory agreement, or in instances in

which the best interests of the Navy are served, approval will be given to cost-plus contracts.

Virtually all Naval aircraft procurement throughout the war has been on the cost-plus basis, a device developed to speed production. It was authorized in the War Powers Act and the action of the Bureau of Aeronautics in terminating this type of contract is well in advance of the expiration of that authority at the end of 1945.

**New Law**—Current thinking in the Army Air Forces is to ask Congress for new legislation supplanting, rather than merely amending the Air Corps Act of 1926 which governs military aircraft procurement. The 1926 statute is considered outmoded and already has been amended so often that there is doubt as to the meaning of some of its provisions. The draft of the new legislation now being considered by the Air Staff is briefer, simpler and much more elastic than the 1926 act and would give the Secretary of War wide discretionary powers.

A particularly strong point of the proposed legislation is found in its classification of the number of planes of an experimental type that can be purchased. Under interpretation of the present law, the number has been limited to one. The new bill would permit the Secretary of War to authorize purchase of any number up to a wing—a variable quantity which would give the AAF a sufficient number for tactical testing.

Present plans in the AAF as their proposed appropriations call for 31 percent for new models, 5 percent for fighters, 4 percent for bombers, 3 percent for cargo planes, 6 percent for platform craft and 2 percent for rotary wing.

#### Link Trainer Surplus

Link Aviation Devices, Inc., makers of the instrument trainers used by both Army and Navy during the war, has entered an agency agreement with the Reconstruction Finance Corp. whereby the company is undertaking re-conditioning and sale of surplus Link trainers.

Under the arrangement, all government-owned trainers deemed commercially salable are being sent to the Link factory to be put in good order, and then will be offered to the public. Price will be \$1,500. To date, more than 300 of them have been declared surplus.

## COORDINATED COOPERATION!

### WOLAB CORP.

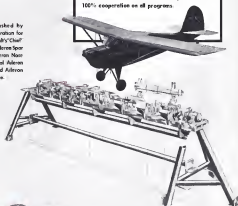
for cost and delivery estimates on Aircraft and Automotive tooling.

Telephone 4871  
Springfield, Ohio

Tools furnished by Wolab Corporation for *Aviation Monthly* Chief consisted of *Albion Spar Assembly*, *Albion Spar Assembly*, *Final Albion Assembly* and *Albion Checking Gauge*.

Wolab's past experience in assisting the Aircraft industry to tool up for the high production demands of the War just finished has created the fine tooling craftsmen so essential to precision production workmanship. We can do rough assemblies when called for in specifications but when close tolerances are specified, we're right on the beam.

We stress our classifications as Designers and Builders. We have found that the advantage in any tool building program lies primarily in having designers and assembly crews under one roof, assuring coordinated control over both departments and 100% cooperation on all programs.



DESIGNERS • BUILDERS

JIGS • FIXTURES • GAGES

TOOLING CONTRACTORS TO THE BEST IN THE NATION!  
SPRINGFIELD • OHIO



CONSTELLATION ASSEMBLY LINE:

Lockheed's assembly lines are making the first commercial version of the Constellation transport to right seating airline. Extreme modifications and refinements are being worked into military Constellation to fit them for luxury passenger service.

# Look at FLOAT OPERATIONS —this way

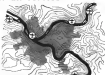


## 90% of U. S. cities can have front door air service

Harbors, rivers and lakes were the logical spots for settlements, when the nation was young, and then today about 90 per cent of urban points include water area adequate for floatplane operation.

Prospective air service operators should investigate the possibilities of using these ready-made airports as the front doors of most of America's cities. For sales, charter or school purposes, floatplane operation offers an economical opportunity to render more convenient city service than from any other airport.

Edo makes a standardized line of metal floats for visually every plane. Light-plane sizes are immediately available.



See Pittsburgh, for example:

Five floatplane bases are on the river in the heart of the city, four others are nearby. Canton, West Virginia, has a busy floatplane line service. On the river below Hackensack, New Jersey, float operations keep a close place aloft. Opportunity exists in hundreds of other spots.

**Edo** Master Float Makers  
AIRCRAFT CORPORATION • College Point, L. I., New York

## Sperry Head Warns Draft Slows Research

Gillmor tells Senate committee many companies are losing valuable engineers; sees U. S. leadership in danger.

Continued drafting by Selective Service of young, qualified aeronautical engineers is seriously interfering with the nation's research and development program and hampering reconversion, a Senate committee has been warned by a spokesman for the aircraft industry.

R. E. Gillmor, president of Sperry Gyroscope and a member of the board of governors of the Aircraft Industries Association, told the War Mobilization subcommittee of the Senate Military Affairs Committee that "the nation's position of aeronautical leadership cannot be maintained for long if the aircraft industry continues to lose its engineering personnel at the present rate."

**Losses Cited**—He cited one aircraft company which lost five engineering specialists during October alone, and has 25 others subject to induction at a time when it is working on more secret projects for the Army and Navy than at anytime during the war. One other company has 40 engineers now subject to induction, another has 23 and another seven.

Gillmor's statement to the committee cited reports that Russia and Britain were embarking on greatly expanded aeronautical research programs and indicated these trends with recent drastic reductions in appropriations for Army and Navy aeronautical research work. Requests by the AAF have been reduced from \$245,000,000 to \$115,000,000, while the Navy's requests were cut from \$144,000,000 to \$41,000,000.

**Program**—The industry's program called for:

- An understandable definition of the nation's research needs and effectiveness to enable the public to gauge whether present curtailed research and development appropriations were adequate, especially in view of the urgent research programs of other nations.

- Steps to mobilize competitive private enterprise to the task of designing, developing and producing instruments and weapons needed for the national security. In this connection the statement warned against the adoption of patent or

other restrictions which would discourage private industry from engaging in such fields.

- Establishment of a clear-cut national air policy to guide the future development of military and civil aviation so it will affect our future national security and economic welfare.

## Convair To Produce Stoves At Nashville

Consolidated Vulcan Aircraft Corp. will convert its Nashville, Tenn., plant to the production of gas and electric stoves and later go into farm machinery equipment for Aviation Corp., the parent company.

Harry Woodhead, Convair president, and that while the company will enter the general manufacturing field, it will continue to turn out conventional, personal and military aircraft.

**"Fast Move"**—This is the first move of its kind by a major aircraft manufacturer, Woodhead said. "In building the AVCO stove, which is designed for low cost mass production, we will utilize the same manufacturing techniques developed during the war for the large-scale production of aircraft."

"Re-tooling in the plant for the new products will start immediately at a cost of approximately

\$2,000,000. Manufacturing space will be utilized which was virtually surplus at the end of the war."

- Products of the general industrial sector will be marketed by AVCO, Woodhead said, in pointing out Convair's role as a manufacturer.

- Production of consumer goods at Nashville means immediate transfer of production on Stinson Vengeance—150 four-place personal planes to Convair's Stinson division at Wayne, Mich.

## AAF Tests Fireball

Under a reciprocal agreement for exchange of technical and research information among the armed forces, the AAF has taken delivery of two Ryan, jet-powered, propeller-driven Fireball fighters at San Diego and flown them to Eglin Field, Fla., for experimental test evaluation.

Charles Thomas, Ryan field service representative, has been sent to Florida to help acquaint the Army with operation and maintenance of the airplanes. The planes were flown from the Ryan plant by two AAF fighter pilots, veterans of the war in Europe—Capt. F. W. Brasse and Capt. P. M. Thomas. It was the first time either had flown a jet-powered craft.



## FIREBALL PRODUCTION

One of the first photographs of the Ryan Fireball jet-powered, propeller-driven plane production line since work on the advance-type fighter was undertaken, this shows the final assembly line at the Ryan plant at Lumberton, San Diego.

## New 'Chute Opener Eases Cargo Shock

An automatic parachute opening device, developed during the war but just taken from the restricted list, shows promise of valuable application in dropping of commercial cargo.

Worked out as a joint project of the Aero Medical Laboratory of Wright Field, and the Piles Instrument Division of Bendix Aviation Corp., the device greatly reduces the opening shock and consequently reduces leakage of cargo.

**Free Fall**—In trials with the system, it was determined that the opening shock was much greater when a static cord released the chute at the airplane's altitude, than when the chute opened after a free fall.

The automatic opener consists of a temperature-compensated aneroid, a microswitch, batteries, a piston, a powder-charged squib, and a cylinder housing the squib. The device can be set to perform at any of five different altitudes.

At the predetermined altitude, air pressure actuates the aneroid controls, the microswitch, which closes the electric circuit. This fires the squib, the piston moves and pulls on synthetic cable attached to the ripcord.

## Huge Canadian Bomber Completes Test Flights

The biggest aircraft ever built or flown in Canada, the Lockheed super-bomber, has made successful test flights at Molten Airport near

Toronto, but the future is in doubt.

This plane, which has a cruising range of 4,000 miles, may never get any farther than a War Assets Corp. scrap heap. The big all-metal military monoplane, which can carry a bomb load described as far exceeding eight tons, performed well according to the test pilot. It has a wing span of 119 ft. 10 more than the Lancaster, to which it has a general resemblance, although it has a faster rate of climb and greater range.

**Pole Uncertain**—No definite decision has been made as to what is to become of the plane, according to officials of Victory Aircraft, who built it. Originally intended for use against Japan, the Locusts, with four others that are being built in Canada, may become a part of the peace-time "HCA" to be used as training ships. There are no orders now for delivery.

## PAA C-54 Conversion Contracted By Republic

Republic Aviation Corp. has entered into an agreement with Pan American for conversion of 50 more Douglas C-54 military transports into passenger airliners. The company previously has contracted with American Airlines for the conversion of at least fifty C-54's and this work already has started.

Alfred Marchese, Republic president, said that modification and production lines previously planned have been expanded at the company's Farmingdale plant so that work for Pan American can be accomplished parallel with that for American.

**Deadline**—Deliveries of the converted transports are to begin within 60 days after the military versions are delivered to Republic and agreements with both airlines call for completion of the 70 airplanes by next May.

## Fairchild Appointed Agent For Surplus Instruments

Fairchild Camera & Instrument Corp. has been appointed agent for the RFC in the sale of government surplus aircraft navigation instruments, aerial cameras and some other related equipment.

The contract includes not only Fairchild-manufactured instruments but products of Fairchild design which were manufactured by other companies during the war.

**Types**—Instruments involved include Army and Navy standard type reconnaissance, mapping and charting aerial cameras, gun cameras, and other photographic equipment such as operating control units for cameras; aircraft navigation instruments such as automatic radio compasses and electric sextants.

## Air Associates Expands

Air Associates, Inc., Teaneck, N. J., is opening a new branch office and warehouse at Atlanta, Ga., an outlet which will permit the firm to reach aviation manufacturers and airports in Georgia, North and South Carolina, Tennessee, Mississippi, Alabama and Florida. Kenneth MacGrath, Air Associates president, said the Atlanta branch, like other branches in Chicago, Dallas and Los Angeles, will be directed from the home office at Teaneck.

## Rainbow Props Chosen

Selection of AeroProducts propellers to drive Republic's super-speed strainer, the Rainbow, has been announced.

Props to be supplied by General Motors' AeroProducts Division at Dayton will be 16-1/2, 2-m. in diameter and of full-fathering, reversible pitch design of extreme width, they use hollow steel construction.

**On Order**—Now on order by Pan American World Airways, the big, 60-passenger, four-engine ships are designed to fly from New York to London in nine hours (AVIATION NEWS, Oct. 23). Production plans call for single-section props.

# AiResearch Announces the CABIN PRESSURE REGULATOR OF THE FUTURE

## THE END RESULT OF 10,000 BUILT FOR A.A.F. PLANES



TOMORROW'S REGULATOR  
MEETS NOW  
Weight 7½ lbs.  
Height 10½"

## Tomorrow's Cabin Pressure Regulator

The new AiResearch cabin pressure regulator makes possible safe descent without release of cabin pressure schedules within the range of operational flight.

For flight between the upper and lower "cutoff" altitude levels, the regulator will maintain an "average" pressure within the upper cabin throughout the trip.

For flight between upper and lower altitude levels, it will regulate cabin pressure in a gradual, level, or in the presence of the atmosphere in case of change in the pressure of landing.

Heavy, it may be no longer be necessary to make a gradual ascent or descent with the support in order to equalize the cabin pressure change in a safe manner. The new cabin pressure regulator... (text continues)

For more complete information, write the AiResearch Manufacturing Company, Los Angeles or Phoenix.



The AiResearch Model 20 regulator is equipped with an electrically operated cabin altitude selector and rate of change control—the two being synchronized. The cabin altitude selector (cabin hand knob on left) will...

afford selection of the altitude pressure as is maintained within the upper cabin.

When the change is completed, the regulator "locks off" and maintains a constant pressure within the cabin until such time as the pressure within the cabin can be gradually or decreased at any rate during flight in a safe manner to provide ample passenger comfort.

The rate of change control provides a means of regulating the speed with which the change in altitude takes place.



"Lincoln" Bomber: First of five Lincoln bombers completed at Victory Aircraft. Its four Rolls-Royce engines generate 6,600 horsepower. The huge craft was designed to 120 ft., 10 ft. more than that of the Lancaster.



AiResearch—manufacturers of AIR CONTROL equipment  
Cabin Pressure Regulating Systems • Engine Oil Cooling Systems  
Supercharger Airflowing Systems • Temperature Control Systems  
Signal Interlocking Systems • Automatic Landing Control Systems

**AiResearch**  
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## PERSONNEL

### Smith Rejoins Pan Am After Service In Navy

**Lieut. Comdr. James H. Smith, Jr.**, left, returned from active duty in the Navy, has been elected assistant vice-president of Pan American Airways. Mr. Smith has been with Pan American since 1935 when



he joined the company in assistant to vice-president John C. Cooper. He had held various positions with Pan Am. **Robert L. Cummings, Jr.**, right, has been appointed manager of the Atlantic division of Pan Am, replacing **John Leshy**, who recently became vice-president. Cummings has been with Pan Am since 1941.

**Lieut. Col. H. C. Rankin** (photo), recently released from active duty, has assumed the position of sales manager of Beech Aircraft Corp., Kansas.

Mr. Rankin has been with Beechcraft since its earliest days and served as chief pilot of Beech for several years.

**Carl B. Woodson**, who has been sales manager, has been assigned the position of manager of a direct factory sales branch at his own request.

**Lieut. Col. Henry A. Wise, Jr.**, former secretary and general counsel for All American Aviation, Inc., has joined the law firm of Thurgood, Stockly and Layton in Wilmington, Del. Colonel Wise joined All American in 1943 and in 1945 to join the Army where he served as chief of the AAF flight section.

**William A. Glanfield** has returned to United Air Lines as San Diego district traffic manager. **W. E. Patrick**, in charge during Glanfield's military leave, becomes assistant district traffic manager.

**Andrew Mackintosh** has been named assistant personnel director for TACA Airways Agency, Inc. He

joins TACA from General Aircraft, Inc., where he was assistant director of personnel.

**W. Fickels De Graaf**, formerly chief aeronautical engineer of the Ford Motor Co. plant, and **John Galt**, formerly chief production manager of Republic Aviation Corp., have joined the design engineering staff of Kellogg Aircraft Corp. to work on advanced helicopter projects. De Graaf has been named chief research and development engineer while Galt becomes chief project engineer. De Graaf recently resigned from Consolidated Vultee Aircraft Corp., where he was engineer in charge of preliminary design of the San Diego plant.

**John K. White** (photo) has been named personnel director of Chrysler at South-  
eastern Air Lines, succeeding **R. Todd Crutchfield**. White joins Chrysler at South-  
eastern from the College Aircraft Corp., Annapolis, Md., where he has been personnel manager. Crutchfield will continue as a division head in the personnel department at the airline. During the early part of the war Crutchfield was general manager of C & B modification center.

### Two Lines Announce

#### Transfers of Personnel

Delta Air Lines announces several personnel changes. **George G. Starnes**, former district traffic manager at Cincinnati, has been transferred to New Chicago, where he will manage district traffic manager. **Charles M. Matheson**, **Bolton B. Meier** and **Marion Nakano** have been transferred to Chicago. **John B. Young**, former fighter pilot, has returned to Delta and been assigned to Cincinnati as traffic representative. **Edwin W. Baker**, former district traffic manager in Birmingham, has been assigned to the same position in the new Miami office. **Rex Hall** also was assigned. **Ruben Haskins** of the Shoreport office, has been named traffic representative in Birmingham.

In the reorganization of Glenn K. Martin Co., G. L. Bryan, Jr., becomes head of the mechanical department of the engineering division. **G. W. Wilson** heads the design department and **G. W. Noller** is in

charge of the administrative department. **F. M. Magnusson** had been named director of commercial sales. **R. L. Sasulsky**, Army aviator, **W. A. Terry**, Navy aviator, and **J. L. Hoadley**, contract administration department.

### Delta Names Cushing To Operations Post

**George R. Cushing** (photo) has been elected to the newly created position of vice-president in charge of operations, and to the board of directors of Delta Air Lines. At the same time **Col. E. C. Parker** was re-elected vice president in charge of traffic and to the board of directors. **Col. Parker** has been with the Air Transport Command and served as chief of staff of the European division. Cushing joined Delta as a pilot in 1935 and became chief pilot in 1937. He later was operations manager. He is a member of the Georgia State Aviation Commission.

**Charles A. Tobin** has been named division manager of the newly created Detroit-Windsor division of Eastern Air Lines. At the same time **John M. Lapan** was named district traffic manager for the New England district.

**Walter B. Mueller** has been appointed manager of the airport division of the American Road Builders Association. Mueller has had experience in airport construction, having for years been assistant Washington representative for the Asphalt Institute. The Association plans to extend and expand its activities in engineering and construction of airports.

### Blees Appointed Head Of Sales By Convair

**William A. Blees**, formerly vice-president and Pacific Coast manager of the Young & Rubicam advertising agency, has been appointed vice-president in charge of sales for Consolidated Vultee Aircraft Corp. Blees also will serve on the sales committee of the Aviation Council.

In 1942 Blees has been in charge of the Campaign advertising account for Young & Rubicam. He will direct sales of all commercial, general and military aircraft.

**Leonard G. Mallet** (photo), a veteran of 34 years with various divisions of United Aircraft Corp., has been named assistant general manager of Pratt & Whitney Aircraft division, East Hartford. Mallet was elected a vice-president of Pratt & Whitney Aircraft Corp. of Madison in 1942, serving as general manager. He joined the Sikorsky Aircraft division of United in 1929 after several years with Fordham Aircraft Manufacturing Co. and General Aircraft Corp.

**W. J. Doley**, traffic manager of Trans-Canada Air Lines headquarters at Winnipeg, has been appointed to the Traffic Advisory Committee of the International Air Transport Association.

### New British Plane Tests 'Wing' Idea

Constructed to prove the principle of the flying wing for air transport is Great Britain's first post-war tailless aircraft designed and built by Handley Page.

The unconventional type (AVIATION NEWS, Oct. 29), is powered by two de Havilland Gipsy Major engines of 140-hp. It weighs 4,000-lbs. has a wing span of 46 ft., with area of 246 square feet and a fuselage length of 35 ft. It carries a pilot and one passenger, cruises at 130-mph. and has a ceiling of about 13,000-ft.

Sharp Contrasts — The craft, named the Mew, contrasts sharply with the conventional airplane apart from having no tail, in that the wings are swept back at an acute angle, with rudders that move in an outboard direction only, instead of the tips. The ailerons also act as elevators and are known as "Vivons."

Main advantage of the tailless type of aircraft as seen by The Society of British Aeronautical Engineers, is lower structure weight because there are no complicated tail surfaces to be carried, the unobstructed field of fire aft in the case of a military plane, and in the case of a civil type, easy access for loading freight and passengers through the rear end of the fuselage.

It was pointed out that such a type offers great possibilities for the installation of jet propulsive units within the wing.

# Scott

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# What Shielding Conduit is Best for Airline Use?

Finally, no shielding manufacturer, engine manufacturer, no one particular airline has the final answer to this problem. Titeflex Aerocon 154 was developed during the war to satisfy military requirements for a mechanically rugged conduit with optimum shielding characteristics. It proved an excellent conduit on both the high and low tension sides of the ignition system on planes flown by both the Army and the Navy.

## Airline Problems of Peace and Conversion

Airline maintenance engineers are presently faced with a great number of problems in the conversion of military aircraft to commercial use. They are also free to specify new equipment on operating aircraft—equipment not necessarily conforming to Army and Navy specifications.

While Aerocon 154 may solve the shielding problems of many airline maintenance departments, Titeflex engineers are currently working with specific airlines to develop conduit types exactly suited to their requirements. If you are not taking advantage of this personalized engineering service, a letter to our main office will start an engineer on his way. Titeflex, Inc., 568 Pringleborough Avenue, Newark 5, New Jersey.



**Titeflex**  
AEROCON 154

## FINANCIAL

### Air Line Stocks, At All-Time High, Favored Over All Other Groups

Tremendous growth factor is cited as reason, together with repeal of excess profits tax provision and limited supply of shares available.

Spirited buying has placed an all time maximum on airline stocks. These shares have been consistently strong in recent months even when the general market has been showing faltering tendencies.

This strength may be attributed to three main reasons: (1) outstanding post-war growth prospects; (2) repeal of the excess profits tax provision and (3) the limited supply of air line shares.

Many studies—Reflecting this widespread interest are the many studies and reports on the air transport industry being released by many New York stock exchange and investment firms. This, in turn, frequently causes buying to feed on itself.

Typical of current comment is the recommendation appearing in *Standard's* and *Poor's* Outlook for Oct. 28, 1945: "Demonstrated earning power, strong financial position and high credit standing of the larger air transport companies places them in a favorable position despite recent sharp price advances. We continue to regard American, Eastern, Northwest, TWA and PCA as outstanding long-term growth equities."

The accompanying table shows the 1945 market action of all the air line equities. Gains range from 81 to 191 percent. Virtually all of this appreciation took place within the last six months.

Colonial's gain of 161 percent is probably due to the very limited supply of its stock. A total of 274,500 shares are outstanding, of which about half is believed closely held. This limited marketability makes for wide price fluctuations.

Leader—Top honors, from the standpoint of general market interest, belong to Eastern Air Lines. This carrier's equity rose \$8 a share in one day. Moreover, since

November 1, the stock reached the \$146 mark, representing the first all time high for the "Eastern Club" on the exchange. (American and Pan American would be members were it not for their previous stock splits.) In view of the widespread market interest, Eastern's stock (\$87,023 shares outstanding) is in very short supply and its skyrocketing must, in part, be chalked up to this factor.

The most important element in Eastern's rise, however, may be found in its position as the leading beneficiary of the repeal of the excess profits tax and reduction in normal and surtax rates. The company is one of the few air transports in the EPT bracket. Were it not for this tax and assuming an overall normal and surtax rate of 46 percent, Eastern's earnings for the first six months of 1945 would have been about \$5.36 per share instead of the \$1.43 actually reported.

Lincoln—TWA, with a gain of 143 percent, probably has attracted considerable buying in view of its newly certificated International operations. A limited supply of marketable stock is also a factor.

American, also a leading beneficiary in the repeal of the excess profits provision, no doubt has been confined in its market appreciation by the large amount of stock soon to be sold by American Corp. The holding company, faced with a divestment order issued by the CAB, is required to sell almost 243,544 shares of American and this will tend to overhang the market until it is disposed of.

Among the transcontinentals, United shows the least relative market appreciation. Some sources attribute this to the conservative character of the management. The total floating supply of United's stock is probably the largest in the

industry—4,516,394 shares of common and 193,548 shares of preferred. In other words, sharp upward fluctuations are less likely with sufficient shares always available.

Closely Held—United's preferred stock demonstrates the other side of the picture. This senior equity is convertible into common and is closely held by investment interests. On Nov. 2, it recorded a gain of \$16.50 per share on total sales of only 349 shares. Yet, the price of the common, which really determines the conversion value of the preferred, was up only 13 cents that day.

Air line equities are being evaluated without any regard to basic asset positions or even near term earnings. Their growth factor is considered so tremendous that the market favors them above all other groups.

No Inducement—Certainly, the inflationary spirit which seems to motivate the general market, can hardly be expected to spark air line prices. For one thing, the carriers have no cash hoards and their operating costs—materials, fuel and wages—all will be adjusted upwards. To this, the air line enthusiasts reply that the industry's growing volume will more than absorb any increasing costs. Nevertheless, it is a market boom that as prices continue higher, profit possibilities become more limited and the risks multiply.

## Market Action

Tabulation of market action on all airline equities.

Company	1945 Market Range	Per-centage Change
American	\$62.00-82.00	106%
Boeing	20.00-25.00	25%
Eastern Air Lines	26.00-36.00	50%
Colonial	10.00-18.00	81%
Continental	19.00-29.00	52%
Delta	30.00-35.00	45%
Northwest	28.00-38.00	35%
Trans-Continental	18.00-28.00	55%
National	24.00-32.00	34%
North	22.00-28.00	27%
Pan American	35.00-45.00	28%
TWA	44.00-54.00	23%
United	54.00-66.00	21%
United-Continental	14.00-18.00	29%
Western	30.00-38.00	26%

Key:

\*Up to and including Nov. 3, 1945  
 †Listed on New York Daily Exchange  
 ‡Reported last prices in "Over-the-counter" market



## B-29 Bomber Becomes C-97 Transport

The B-29 is unquestionably the world's finest bomber . . . its range, speed, load capacity far exceed any other. Boeing engineers and designers decided that this famous ship had peacetime possibilities as a commercial transport if its carrying capacity could be increased. So they put their heads together and came up with the C-97 . . . a double-fuselage giant with 10,000 feet of cargo space, capable, in wartime, of transporting 100 fully-equipped troops.

Except for this new hull, the C-97 resembles

its B-29 brother in most respects . . . including the tail and the huge wing with its four great Wright 2200-h.p. engines. And just as Chandler-Evans engineers made a fine wartime record on the Superforts, so is their steady, dependable performance carrying on in this peacetime version.

As new and finer sky giants are developed in the years ahead, CECO products will continue to supply them with the precision and quality that has met the test of war.

CARBURETORS FUEL PUMPS PROTEK-PLUGS  
**CHANDLER-EVANS CORPORATION**  
SOUTH MERIDEN, CONNECTICUT



## SPECIAL AIR SERVICES

CHARTER

NON-SCHEDULED

INTRASTATE

### Kaiser Studies Transcontinental Non-Scheduled Airfreight Line

Firm of consultants working on survey; start of service in near future considered possible, using surplus C-47's, hauling flowers to East and clothing on return trip.

Henry J. Kaiser has ordered a study of the potential demand for a San Francisco-New York non-scheduled air freight service. Associates of the shipbuilder say his son, Edgar Kaiser, and Ralph Collett of Oregon Shipbuilding Co., Portland, Ore., are key figures in the proposed project.

Kaiser headquarters at Oakland, Calif., disclosed that while no planes have been purchased and no freight contracts have been signed, a survey is being made.

**Analysis** — Los E. Hubert, of Douglas Aircraft Co.'s flight test staff, is on leave of absence to work with Alvin P. Adams & Associates, Los Angeles aviation consultants, in projecting a marketing and operations analysis for Kaiser.

Aviation observers in the San Francisco Bay area believe that if the project materializes, service will be started in the near future, on the assumption that such operations started before the end of the year might earn "crossed-fertilizer" rights which the Civil Aeronautics Board may not accord non-scheduled services launched after Jan. 1.

**Carriers** — While lacking official confirmation, a string of reports concerning the Kaiser project indicates service might be started with four surplus C-47 transports, and with a guarantee by San Francisco out-fitter wholesalers to provide shipments totaling 20 tons a week at a shipping cost of 20 cents per ton mile. New York garment wholesalers are said to have guaranteed return flight shipments of fashion specialties.

Union Oil Co.'s Pacific Armory is understood to have been offered a contract for airplane maintenance, and arrangements with Western and Continental Air Lines for servicing of air freighters in the areas served by those lines have been discussed, according to other reports which cannot

be verified. Intermediate stops already mentioned include Reno, Denver, Omaha, Chicago and Cleveland, with a private airport, such as Westchester, to be used as the New York terminal.

### Page Airways Opens Air Cargo Division

Page Airways of Rochester, N. Y., has organized an air cargo division which accepts business on either a charter or contract basis. Both single and twin-engine planes are used.

According to R. W. Bowen, manager of the division, service is available to all parts of the country.

**Cost Scale** — Rates vary from 40 cents a ton mile for shipments of 1,000-lbs. or less to 30 cents a ton mile on a load of 3,000-lbs. or

### Pittsburgh Air Van

A Pittsburgh van company which first requested a CAA certificate two years ago has acquired a designated route. Boardman Norstrom and expects to start a non-scheduled air transport service about mid-November.

The W. J. Dilbert Transfer Co., operators of moving vans in 28 states, claims it is the first household moving firm to take to the air. More Noke-dues, all powered with 60-hp. Ford & Whiteleys, will be added as the year follows, and surplus Douglas C-47's may be utilized later.

**Long Hauls** — Dilbert will discourage short hauls, having set a 200-mile maximum rate for specific items such as pianos, beds and draperies, which are only about 10 percent higher than regular van prices. Considerable machinery and other commodities are expected to be flown which save go by van.

**Some of the company's planes may be equipped with floats or skis when special jobs require them.**

more, distances based on airport to airport air miles.

A 1,000-lb. shipment is flown 100 miles in 40 minutes for \$17.50, or 150 miles in 35 minutes for \$17.50, while a 2,000-lb. shipment is flown 100 miles for \$30, 150 miles for \$40 and 200 miles for \$45, according to the schedule.



### PENNSYLVANIA SEAPLANE BASE:

Official seaplane base, CAA designation, at Erie, Pa., is to be set up on the bayfront to the left of the public dock, shown in R. D. McAllister & Son, one of the largest boat plants on Lake Erie, have the franchise. R. Holmes, American Airlines pilot, has shown sketches of establishing the Precise Life Aviation Co., at Erie base. He plans to use two Republic Seabee amphibians, soon on order, for flying sportsmen, along with regular passenger service to hunting and fishing resorts in Canada.



## "Penny-wise" FIBERGLAS® insulation assures "pound-wise" comfort for Stratoliner passengers



Costly weight was saved—profitable pay loads were increased and passenger comfort was assured, by TWA—the Fiberglas Insulation was installed in the Stratoliners.

Thoroughly tested and proved, Fiberglas is installed wherever insulation is called for in all of America's bombers, cargo and fighter planes. Fiberglas Aircraft Insulation is made of fine filaments of glass, fabricated into flexible blanket form, 10 sq. ft., 1/2 in. thick, weighing as

little as 4 ounces. It has exceptionally low moisture pickup, even under conditions of extreme humidity, and provides an optimum of thermal insulating efficiency and sound reduction. Easy to handle and install, it maintains its form and shape even under extreme vibration.

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# FIBERGLAS AIRCRAFT INSULATION

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## Playford Backing Contract Carrier

Florida air enthusiast and capitalist setting up new concern; delivery of six surplus C-47's awaited

U. S. Airlines, Inc., headed by Harry Playford, Florida air enthusiast and capitalist, has been organized as a new-scheduled, contract cargo air carrier and probably will be in operation by the end of the year.

Ground crews already are stationed at Bush Field, Augusta, Ga., awaiting formal delivery of six Douglas C-47 transports from government surplus authorities, and officials have been in conference with representatives of Florida shippers lining up future business. Temporarily, at least, headquarters of the company will be maintained at St. Petersburg.

► **Plans**—According to C. A. Harrison, vice president in charge of traffic and sales, the company contemplates limiting its activities to contract services. Eventually, it may be possible to purchase Fairchild C-42 cargo transports to replace or supplement the Douglas equipment.

Playford is president of a St. Petersburg bank, an owner of Alaska Air Lines, a director of National Aeronautics Association, a member of CAA's Non-Scheduled Flying Advisory Committee, and a private flier.

► **Opened School**—Last spring U. S. Flying Services, Inc., which he heads, leased three hangars and other facilities at Albert Weisand Municipal Airport, St. Petersburg, for sales service and aircraft conversion activities. This company formerly was operated by Playford at Knoxville, Tenn., as a flight training school for Army air cadets attending University of Tennessee and Maryville College.

The new company will be one of the first few contract air cargo operators in this country. Except for the NC surveillance requirements of CAA which are demanded for all planes flown in the U. S., the line will be outside control of Federal aviation agencies and the Civil Aeronautics Act. If its activities are restricted solely to contract operations, it will remain outside any regulations which Civil Aeronautics Board may place on other so-called non-scheduled air services which are common carriers.

## New Air Travelers

Contrary to the frequent claim that scheduled airlines attract mainly the same group of air travelers in the report that 85 percent of the passengers who have been flown by Maryland Air Lines' Comair between Washington, D. C., Boston, Md., and Baltimore, Md., never had been in an airplane before. Company officials report about 40 percent of the passengers have been women, many of them Maryland and Delaware residents who were on shopping trips to Washington.

► **The line now operates three flights a day.** Air fare to Boston is \$4 against fare here of \$4.19. Air time is 30 minutes, but time is about four hours, and rail service involves a change of trains. Few passengers are carried only freight. Each passenger is permitted 40 pounds of baggage.

## First Intrastate Md. Airline Starts

Columbia company's Basing open Baltimore-Hagerstown route; two other license holders premise service within 6 months.

One of the three companies recently granted intrastate airline charters in Maryland has started service and the others expect to be in operation well before the six-month deadline given them by the Public Service Commission.

The decisions (AVIATION NEWS, Oct. 23) clarified the policy of the Commission in deciding four points which had been under long debate by the commissioners.

► **The commission decided against a cautious wait-and-see policy and issued approval to three carriers who were ordered to start service within six months.**

► **A carrier carrier was permitted to parallel its bus routes with air service.**

► **Single-engine (Taylorcraft, four-place) aircraft were declined also for passenger transportation, even over as large a body of water as Chesapeake Bay.**

► **All three applicants were approved, setting up competition in a small state.**

Pae-Maryland officials were disappointed because they had agreed to serve numerous small communities with insignificant passenger

potentials on the assumption that larger points would compensate for their losses. They were gratified the smaller points but virtually none of the major cities.

However, Pae-Maryland's president, O. Bernard Fenwick, Jr., expects to start service in a few months with a six cent fare, at which he says he can operate in the black. Since a number of points in his license have water-fronts but no airports, he is considering purchase of a fleet of Republic Stearman amphibians. He hopes eventually to operate a fleet of 40 planes, on half-hour schedules.

► **CAB Petitioned**—Pae-Maryland has already filed with CAB for various cities in the Maryland-Delaware area, including Cumberland, which was denied PBT by the state agency.

## Some Lines May Halt For Winter

Prospect that several of the nation's operating intrastate airlines may close down for the winter to insure maintenance of their perfect safety records is seen in Washington.

One such airline has already reached this decision, although it has every evidence of increasing business by continued operation. The wide publicity given to the single accident of a Page Airways plane at Washington National Airport, however, and the use of this accident by the major certificated air carriers as an argument against smaller air transport operators, has resulted in plans for winter action by the officials of this small company.

► **Critical Period**—The next few months will be a crucial period, she, while CAB reaches a decision on its future policy concerning regulation of the non-scheduled industry. Some observers in Washington believe that one or two more accidents by companies un-certificated by the Civil Aeronautics Board will be a powerful blow to independent operators.

► **Independent operators**, because of the scarcity of statistics in non-scheduled flying, would have a difficult campaign against the Civil Aeronautics Board will be a powerful blow to independent operators.

► **Some airlines** will be a powerful blow to independent operators.

## Close Airline-CAA Cooperation On Readjustment Problems Seen

Encouragement found in recent four-day conference where many worrisome industry matters pertinent to expansion of transport operations were settled.

By WILLIAM KROGER

Encouraging signs that extremely close cooperation between the airline industry and Civil Aviation Administration can be expected in the complex period of post-war readjustment were seen when representatives of CAA, 10 airlines and the Air Transport Association met recently to settle a variety of worrisome industry problems.

Questions of mutual concern at the past have often been permitted to drag through a series of conferences, extending sometimes over weeks. Points discussed and resolved at the latest joint meeting were carried by the airlines to Administrator T. F. Wright, who arranged a conference with his top advisers.

◆ **Decisions**—In four days the following decisions were reached:

◆ **Interim equipment** to speed up approach operations will be installed at 12 major airports pending the

complete transition to very high frequency installations.

◆ **A formula** will be adopted to serve as a yardstick for measuring the load a DC-3 can carry off a given runway. It will permit uniform landing practices by all airlines.

◆ **Average weight** of a passenger will now be considered as 165 lbs. in summer and 185 lbs. in winter, rather than 170 lbs., a change airlines have wanted to make for some time as a survey proved the former average too high.

◆ **Requirements for "proving"** pilots on each new and alternate route before they fly it will be changed, in recognition that pilots have established their ability to fly anywhere under practically all circumstances.

◆ **CAA will continue**, if it can obtain the funds, to operate the second towers at airports.

◆ **EC-14's** in transcon operations

### Conference Roster

Present at the meeting of airline industry and CAA representatives were: American Airlines—W. W. Russell, Stan West, R. L. Roberts, R. W. Ayer, Russell Reed, Knight; Eastern—S. L. Shannon, John F. Gill, E. H. Parker, North-west—K. R. Ferguson, J. F. Woodard; PCA—Ralph H. Hunter, J. A. Brocks, Pan American—Joseph Chase, TWA—H. E. Gailor, Jr., E. K. Moore, United—W. J. Adelson, Western Air—Charles N. Jones, L. D. Carlson; ATA—Stuart G. Tipton, John Groves, Allen D. Ellis; Association Radio, Inc.—D. W. Bentley; CAA—T. F. Wright, Cary Langley, John Slater, Paul B. Lewis, James L. Kinney, W. W. McCannell, CAB—Frederic Alberry.

can be headed by a flight crew of two when convenient and training methods are revamped.

◆ **CAA will inaugurate** a program of safety education for private pilots to reduce any danger that may be inherent in their use of airports.

◆ **Stop-go**—Use of new airport equipment, while purely a stop-go measure in expected to cut average landing time to three or four minutes. Two non-directional "beacon" stations will be placed in the vicinity of the lower markers, out of the field of the radio beacon. This will enable pilots stacked up in the holding pattern to "hold" on the two stations. After out the range signal and use the range frequency for radio communication. Thus all pilots in the pattern can hear landing instructions.

Under present practice, the holding pattern interrupts the range and pilots cannot satisfactorily use the range frequency for voice instructions from the tower or communicate to pilots by each airline's own communications system and on varying frequencies.

◆ **Locations**—The airports at which the additional equipment will be installed were suggested by the airlines, and concurred in by CAA. They are: Washington, New York, Chicago, Burbank, San Francisco, Cleveland, Pittsburgh, Atlanta, Dallas, Fort Worth, St. Louis, and Kansas City.

The airlines stressed at the meeting the necessity of the continued functioning of the airport traffic control towers CAA has

# The Birdmen's Perch

by Major Al Williams, AIAA, "TATTERED WING TIPS,"  
Gulf Aviation Products Manager, Gulf Bldg., Pittsburgh 30, Pa.

without generating the plane.

And these birds, low wing jobs from Texas, rode hummers that get you there looking lucky.

We like 'em all so much that by the time we decide which one we like most, they'll all probably be around anyway!

Meanwhile, the new planes seem to get so much back in the old ones out of the Gulf Aviation Company—all the most powerful and we know of.

### LITTLE KNOWN FACTS DEPT.

No, we don't abandon this department.

We will offer handsome commissions as Beach Pilot (honest wage) for Little Known Facts About Well Known Places. We will promote you to Senior Beach



Pilot after we've accepted 3 of your "Facts."

We just didn't have room for "Facts" last month.

This month, the whole department in the work of our new Beach Pilot (Jim Adams, of Toledo Mo) was in a state of "Facts" with proof, which means he has only one more to go to become our first Senior Beach Pilot!

"The spark plugs in a single engine cylinder flash more than 10,000 times in a single hour from New York to Washington!"

"A 2000 hp. radial engine has as much power as a freight locomotive, weighs about as much as the locomotive's wheels!"

"It less than 3 hours, an 18-cylinder radial was used for the construction of the new could get in an X-3 type blimp!"

"The cooling area of a certain 14-cylinder radial is greater than the area of 2 bowling alleys!"

Gulf Oil Corporation and Gulf Refining Company...makers of



GULF AVIATION PRODUCTS

Well, here's that position they're all been asking about.

So we've been looking at the power plants we need about for four years. And we like 'em!

Of course, we'd like to the powerful Gulfair, for our serious flying. But for being easy, safe, and, well, we were out of this little job.

There's that decision we made out of the new-loop and of an EPR. An honest improvement replace which built under 40,000 hours and 90, and will probably cost less than a thousand bucks! We like 'em!

We like the dips on the new Stron that let you sink in fees waaaay up. And the amount of baggage you can use in

### DON'T FORGET DEPT.

Gulfair Oil is the only oil refined by the Alchior Process.

The Alchior Process is, in effect, an additional refining of oil already refined.

Consequently, Gulfair Oil has fewer of the difficult to extract carbon-forming and soot-making hydrocarbons and more of the tough, friction-preventing hydrocarbons.

Use it!

### FLUTTER'S WISDOM

Oh, Gulf Aviation Gearline is the stuff for your flying machine! It gives you a boost. When the Profile is needed—Keeps engine performance smooth.

Can any of you Pitch Poles help and point people, with a clean nose on G.A. 7?



### SEATTLE-TACOMA PORT NEARLY READY!

Used as military security has prevented publication of this seasonal "bird's-eye" view of the Pacific Northwest's newest and largest airport at Base Lake, between Bellevue and Tacoma. It will be the prime airport airport of entry in the northwest U. S. The development to date has cost \$5,664,000. As soon as temporary buildings are completed, it will be the Seattle-Tacoma terminal for airlines now using Boeing Field, visible in distance. Paul Morris, Civil Aeronautics Administration regional administrator at Seattle, and his staff cooperated with the Seattle Port Commission in selection and development of the site.

been operating with Army and Navy flyers which now are being withdrawn [Aviation News, Nov. 5].

► **No Assurance**—CAA was unable to give any more than the previous assurance that it is requesting funds for that purpose. CAA air carrier inspectors in the field are watching closely the situation at those airline shops where tower operation has been discontinued.

These inspectors decide whether the facilities are adequate for the type of service being carried on, and in the few cases to date—namely Bristol and Chittanooga, Tenn.—have determined that airline operators are not made hazardous by closing of the towers.

► **Other Airlines** — Meanwhile, the tower problem was tackled by a special committee of the Civil Aviation Legislative Council, which is composed of representatives of 11 representative organizations, including ATA. The council was one of the first to recognize the difficulties arising out of discontinuance of the towers.

Much of the CAA-industry meeting was devoted to operational problems of C-54's. Customarily, these aircraft have been flown as intracountry service by crews of four or five. The airlines expressed the belief that operations could be conducted as safely with smaller crews.

CAA agreed, however, with only two provisos: that in converting the C-54's for civil use, they be arranged and equipped so that they can be handled by two-man crews, and that airline training procedures be revised with the new plan in mind.



#### AT INTERNATIONAL AVIATION MEETINGS:

This group picture, taken recently at Montreal while the Provisional International Civil Aviation Organization's Interim Council and the International Air Transport Association were meeting at the same time, left to right: A. R. McClellan, Australian delegate to PICAO; Dr. Edgar Werner, president of the Interim Council; H. J. Simpson, president of IATA; J. C. Cooper, chairman of the executive committee of IATA; Maj. J. Ronald McClellan and Maj. Gen. T. B. Sherr, members of the executive committee of IATA and Col. C. Verhaeghe, Belgian representative on PICAO.

## Delta, Eastern To Start Service Extensions

Lines will begin operations on routes granted by CAA in Great Lakes-Florida case.

Announcement by Delta Air Lines and Eastern Air Lines that they will start operation this month of routes granted by the Civil Aeronautics Board in its Great Lakes-Florida decision [Aviation News, Aug. 37] highlighted notice of air service changes received last week by CAA.

Delta intends to begin full operation of AM 34 between Chicago and Miami Nov. 16, with two round trips daily. Only part of the route that has been in operation, CAB says, is that from Cincinnati to Knoxville.

► **Extension** — The Board granted Delta extension of AM 34 from Cincinnati to Chicago via Anderson-Macon, New Castle, Ind., and from Knoxville to Miami via Asheville, N. C., Greenville-Spartanburg, S. C., Augusta, Savannah, and Brunswick, Ga., and Jacksonville, Fla. A leg of the route goes from Spartanburg to Charleston via Columbia. Delta has been flying between Columbia and Charleston on AM 34.

The carrier plans to operate a non-stop round trip daily between Chicago and Cincinnati, and another between Atlanta and Cincinnati. A round trip daily between Fort Worth and Atlanta on AM 34 will be eliminated.

► **Detroit** — Eastern will inaugurate service to Detroit on extension of its AM 6 Nov. 15. This extension, non-stop round trip daily between New York and Miami and between Miami and Key West on AM 56, Nov. 16, each was cut to one round trip daily recently because of equipment shortages.

► **Norfolk Airlines** — Added one round trip daily between Chicago and Rochester, Minn., on AM 3, Nov. 10.

► **Western Air Lines** — Inaugurating service in Palm Springs and El Centro, Calif., Nov. 10 on AM 13. This will permit non-stop operation between Los Angeles and Palm Springs on one round trip daily, and between San Diego and Long Beach on the same line. One round trip daily will be added between Los Angeles and San Diego via Long Beach.

## AA Tulsa Base

American Airlines may acquire the surplus Douglas Aircraft modification center at Tulsa, Okla., for a modification and repair depot. City officials propose to make the purchase and sell to AA at cost charged by Reconstruction Finance Corp. An estimated replacement value would be paid on the \$400,000 value. While entire grounds and hangars might not be sold or leased to AA, a large portion would be. Remains could be used for expansion of Tulsa Municipal Airport facilities.

also granted in the Great Lakes-Florida case, carries it from Columbia, S. C., to Detroit via Charlotte, Winston-Salem, and Greensboro-High Point, N. C., Roanoke, Va., Charleston, W. Va., and Akron and Cleveland.

Two round trips daily will be flown between Detroit and Miami by Eastern, which has been served by Miami-Trenton-New York and Boston. Additional non-stop one round trip daily between Greensboro and Columbia, Akron and Winston-Salem, Charlotte and Jacksonville. A non-stop between Jacksonville and Miami is being resumed.

► **Other Changes** — Other service changes reported to the Board:

► **American Express**—Added Meeks Field, Ireland, as a fuel stop on the North Atlantic route, effective Nov. 3.

► **Brussels Airways**—Added one round trip daily between Dallas and Tulsa on AM 9 and 10, effective Nov. 10.

► **National Airlines** — Resuming three round trip daily service between New York and Miami and between Miami and Key West on AM 56, Nov. 16. Each was cut to one round trip daily recently because of equipment shortages.

► **Norfolk Airlines** — Added one round trip daily between Chicago and Rochester, Minn., on AM 3, Nov. 10.

► **Western Air Lines** — Inaugurating service in Palm Springs and El Centro, Calif., Nov. 10 on AM 13. This will permit non-stop operation between Los Angeles and Palm Springs on one round trip daily, and between San Diego and Long Beach on the same line. One round trip daily will be added between Los Angeles and San Diego via Long Beach.

## NEA Consolidation Heralds Hearings

Civil Aeronautics Board authorization to consolidate three Northeast Airlines routes appears the forerunner of similar action about which three other and larger lines are interested.

The Board combined Northeast's AM 27, AM 49 and Route 10 into a single route, designated AM 27, and approved transportation of mail over the segment known as the "Mayflower" route.

CAB also has ordered that consolidation of operations by American Airlines, TWA and United Air Lines be combined in one proceeding. AA seeks to consolidate AM 11, 23 and 8; TWA 2, 37, 44, 61 and 67; United 1, 83 and 84. CAB AM 27 was ordered in the order for the joint proceeding, for which hearing date has not been set. Eastern Air Lines and Northeast were given permission to intervene.

► **Hearings** — Consolidation permits direct service by that carrier from New York to points north of Boston on the east leg of its route and on former Route 10, reaching a hub at Portland, Me. That was a terminal connection at all three routes. The Board expects time and mileage savings and improved equipment utilization.

Over protests of The New England newspaper, CAB found that clause on the Mayflower route — Northeast acquired Mayflower airlines this year—should not be denied normal service because of pending decision from satellite carriers.

► **Separate License** — Instead of including foreign segments of NEA's route in the consolidation, the Board followed the pattern of the recent Washington-Chicago-Montreal decision and issued a separate certificate for international operations, thus facilitating future changes in NEA's domestic route pattern. Decision was deferred on NEA's request to fly directly between points on the east and west legs of its former AM 27 and between New York and points on the east leg, bypassing Boston in both instances.

In connection with the pending consolidation case, American has submitted a list of non-stops it probably will seek during the first year of operation. CAB acts unfavorably on its consolidation proposal. These are Boston-Philadelphia, Boston-Baltimore, Boston-

Washington, New York-Los Angeles, New York-Tucson, New York-Phoenix, Washington-Tucson, Washington-Phoenix, and Washington-San Diego.

Others that might require "within the foreseeable future" are Philadelphia-Tucson, Philadelphia-Phoenix, Philadelphia-Los Angeles, Baltimore-Tucson, Baltimore-Phoenix, Baltimore-Los Angeles, Nashville-Los Angeles, Nashville-Tucson, Nashville-Phoenix, Memphis-Los Angeles, Memphis-Tucson, Memphis-Phoenix, Providence-Philadelphia, Providence-Baltimore, Providence-Washington, Hartford-Philadelphia, Hartford-Baltimore, and Hartford-Washington.

## TCA Subsidiaries Sought In New Bill

To meet requirements of the International Civil Aviation Agreement, the Canadian government is seeking legislation in Ottawa to allow government-owned Trans-Canada Air Lines to form subsidiary companies for operation of its trans-season routes.

Under the agreement, complete operation details and cost statistics must be supplied the international organization.

TCA and its subsidiaries expect to be operating a North Atlantic service, a Pacific service to Australia and New Zealand, and a West Indies and Latin American service within a year, Reconstruction Minister C. D. Howe told Parliament. Separate companies from that operating domestic routes and those connecting with U. S. airlines are to be formed for these international operations.

► **Capital Boost** — The Canadian government is asking for an increase in capital for TCA from \$8,092,000 to \$23,660,000 to allow for civil aviation expansion. As

the government-owned Canadian National Railways still operates TCA, the bill authorizes CNR to issue securities for the additional \$15,000,000.

The government has not yet made plans for diverting TCA from CNR, a move to which it is committed before next September. Howe stated also that the government has not given consideration to expropriating shares of Canadian Pacific Air Lines and is not doing so at present. CPA must also be divorced from ownership and operation by Canadian Pacific Railways within a year of the official end of the European war.

No dates were announced for inauguration of TCA service from Halifax to Boston, Toronto to Cleveland, Toronto to Chicago, Port Arthur-Port William to Duluth, and Victoria to Seattle. These are new international Canadian U. S. routes announced by treaty last year. The Whitehorse-Fairbanks route under the same agreement began operation in mid-October, with CPA flying it for TCA.

## All American Seeks Joint Service Permit

All American Aviation has asked the Civil Aeronautics Board for an exemption order to permit operation of a combined passenger-pickup service over its two air mail pick-up routes between Pittsburgh, Pa., and Huntington, W. Va. Bailey R. Bailey, president of All American, said the proposed passenger service would meet a long-standing need for air travel in West Virginia and the Ohio River Valley area.

► **Valuable Data** — Of greater significance, however, would be the data furnished by operation of a combined service. Possibility of, and public reaction to, the combination has yet to be proved.



#### NEW OFFICE, SHOP FOR NAL:

National Airlines is building this (sketched) office and shop building on a 60-acre tract recently purchased by the airline near to the 35th Street Miami Airport. The construction program involves a \$750,000 expenditure.

## Merger Of AA, MCA Meets Opposition

Other lines voice unanimous objection to attempt to speed action by waiving examiners' report.

General opposition to the proposed merger of American and Mid-Continent Airlines, and intense objection to AA's attempt to obtain expeditious disposition by waiving examiners' report, came from other airlines at a recent prehearing conference before the Civil Aeronautics Board examiners.

At least eight carriers, planning intervention, are presently aligned against the merger. They are: Bessett, Chicago & Southern, Continental, Delta, Eastern, Northwest, TWA and United. How strong their protests prove to be will depend on provisions of the final AA-MCA agreement and board action on a proposal by United to consolidate its new route application into the merger case.

**Reaction**—The petition for consolidation drew mingled reactions. American and Public Coast vehemently opposed it as an unprecedented procedure in merger cases, branding the move Northwest, Continental, and National adopted a wait-and-see attitude on the consolidation proposal, indicating they too might file applications for routes in the area served by MCA if such proceeding is set. Bessett, only other carrier already having filed an application to effect threatened joint of connections with MCA, and Delta joined United in favoring the consolidation.

Delta examined the case has "set the example of a new route proceeding" and that, on the overall development of an air transport map, there is little difference in competitive effect between a new route application and an attempt to acquire new routes by other means. Recommendation on the petition for consolidation, to be made by Examiners William F. Conner and J. Earl Cox in their pre-hearing conference report, was expected over the weekend.

**Defense**—Defending its stand on early disposition of the matter, American contended it was not pursuing "expedited" action by the merger and that its application "should be considered carefully by the board."

**Expedition** is necessary, the carrier said, lest it be paralyzed with

request to purchase of equipment, personnel matters, and other problems of integrating the systems.

AA takes the position that MCA's routes will "logically fit" into its system; merger will not result in monopoly but rather in improved service and greater development of air transportation in the area, substantial economies, and less cost to the government, terms of the proposed exchange of stock (on a basis of one share of American for five of MCA's) are fair, all MCA stockholders are treated equally and fairly, and AA's financial position will not be impaired.

Mid-Continent, unrepresented at the pre-hearing conference, will furnish witnesses at the hearing.

## Refrigerated Plane Demonstrated By UAL

A fully refrigerated DC-3 was used by United Air Lines recently in what the carrier describes as the first practical demonstration of round trip, coast-to-coast air service for perishables.

The ship carried five insulated containers, each capable of handling about 1,600 lb. It left San Francisco Nov. 1 for New York fully loaded with flowers, fruits, vegetables and meats, then went on to Boston for two-and-a-half tons of fillet of haddock consigned to Chicago and San Diego markets. At Chicago the plane took on 4,000 lb. of Lake Superior whitefish and other Great Lakes fish for the West Coast.

**Dry Ice**—Dry ice held tempera-



"Refrigerated Plane" (center) of refrigerated planes used by United Air Lines to carry perishables on a round trip, coast-to-coast operation. The DC-3 carries five insulated containers, each of about 1,600-lb. capacity.

## Delay Processed

The New Haven Board of County Commissioners, Wilmington, N. C., tried by failure of National Air Lines to provide Wilmington with air service, has authorized a resolution to the Civil Aeronautics Board demanding to know why proposed service was not being supplied.

National has been criticized by CAB to serve Wilmington on its Miami-New York route (latest CAB map on status of certificated routes shows Wilmington service deferred due to the national defense). Three weeks ago a Wilmington delegation was assured in Washington that National would institute service "immediately," according to the resolution which pointed out that no representative of NAL "has been here to arrange for inaugural service."

tue in the containers between 35 and 40 deg. Fahrenheit going east and 25 and 30 deg. westward. United says the demonstration showed either full or partial refrigeration is possible, with different temperatures for different sorts.

Ground transfer of the containers is feasible without damage from outside temperatures. Each of the containers weighs 25 lb. and all five can be placed in a plane in 30 minutes.

## AAF To Drop Drew Field, Tampa, Fla., On Dec. 31

Drew Field, Tampa, Fla., built at a cost of \$25,000,000 and the training center for 250,000 soldiers of World War II, will cease to exist as an AAF base Dec. 31.

Informed sources at Tampa and the field, located in Florida and largely opened by the Third Air Force, will be returned to the county and be operated by the County Aviation Authority.

**Airline Use**—Eastern Air Lines and National Air Lines, operating out of the Peter Knight Airport on Davis Island, will transfer their operations to Drew Field before the end of this month, according to present plans.

The move is being protested recently by the Hillsborough County Aviation Authority, which said it had received no official notice, and had earmarked "considerable funds" for Knight Airport.

## Alaskan Line Maps \$2,000,000 Program

Alaska Airlines plans to spend \$2,000,000, to be acquired through a new stock issue, for equipment standardization and facilities expansion in the Territory and on the link with the U. S. for which it has been recommended by Civil Aeronautics Board examiners.

The line, flag a representative statement with the Securities and Exchange Commission at Philadelphia, explained that "the primary purpose of the financing is to provide adequate funds for standardization of equipment which will reduce maintenance costs, procurement of replacement flight facilities which will increase revenue flight hours, and enlargement of facilities to meet potential development of the Territory and the acquisition of new routes connecting the Territory with the United States."

**No Details Yet**—The statement covered an unspecified number of shares of common stock, the number to be supplied by amendment. The company said it would be sufficient to set \$2,000,000, the proceeds to be added in general funds as new working capital. Underwriting details and plan of distribution also will be covered in amendment.

**Authorized capital** of Alaska Airlines is \$244,000 of 4 percent convertible preferred stock, 81 per cent of which has been issued, and 1,600,000 shares of \$1 par common, of which 430,287 are issued and outstanding, and 30,200 held in the treasury.

## Pan Am Enlarges Mexico Campaign

Pan American Airways' Western Division has rolled up its sleeves and begun to work its way over the U. S.-Mexico tourist trade and the good will of Mexican business and political leaders.

From its Western Division headquarters in Mexico City Pan American is pouring a steady flow of publicity, aimed at the stimulation of tourist travel to Mexico.

**Demonstrations**—At Barikani, Chihuahua, Pan Am is staging terminal demonstrations for women's clubs and Girl Scout groups.

At Mexico City, Partido de la Revolucion Mexicana delivered a well-publicized tribute "to the oldest airline in Mexico, for its en-



## NEW BRITISH TRANSPORTS:

Pictures show two new British planes, one under construction and the other being tested. Outgoing sketch is of the Airspeed Ambassador, being built for feeder service. It will have two Bristol Centaurus engines of 2,500 hp. each, and alternative seating arrangements for 28 to 35 passengers. Photo in flight shows the Avro Tudor II, which British Overseas Airways expects to be using in North Atlantic flights early next year (Aviation News, Aug. 27).



thusmatic spirit in developing Mexican aviation."

Part of Pan American's publicity drive is to establish that Mexican girls enjoy all the privileges of modern women.

**Tourist Stimulus**—Pan American officials admit frankly that they cross a 1,044-mile, 360,000-Mexican tourist, and believe that with the offering of fast air travel Mexico will have 250,000 tourists in 1946 and 360,000 in 1947.

Mexican business firms and the government of Mexico consistently can be expected to be grateful for whatever the airline can do to make these estimates come true, for [according to Pan American's published analysis of the tourist trade] each of the 224-300,000 tourists expected to visit Mexico each year will spend approximately \$300 there during a 15-day visit.

## Brinckerhoff Resigns FLC; Will Assist Foreign Lines

William Brinckerhoff, director of the aircraft division of the Foreign Liquidation Commission, has resigned effective Nov. 15, to become a consultant to foreign airlines. Brinckerhoff will be replaced at FLC by William Vigilbach (Aviation News, Oct. 28).

Brinckerhoff, who formerly served as chief of the aircraft division, Foreign Economic Administration, will have offices at 1706 G Street, N. W., Washington. He has already been retained by Compania Argentina de Navegacion Deydoro of Argentina. Before joining the government he was in charge of aviation insurance activities for the firm of Brewster, Crosby & Co., New York insurance brokers.

## PICAO Committee Reports Near; Few Fundamental Changes Likely

Two groups complete work, others to follow soon; secretariat expanded to include section on operating standards; Greece accepts interim and transit agreements.

After weeks of laborious deliberation and detailed study in Montreal, the Provisional International Civil Aviation Organization is about to produce some of the international technical standards for air transport it was instructed to draft.

The statutory Air Navigation Committee's subcommittees on communications and meteorology completed their work last week, and their two reports now await consideration by the whole committee, which then will pass them on as recommendations to the Interim Council.

**Rules.** Meanwhile, the Rules of the Air and Air Traffic Control Subcommittee also reached the end of its agenda, and put a final drafting group to work. The Airways Systems, Landing Area and Ground Aids Subcommittee also is expected to turn in a final report within the next 24 days.

Once passed by the Council, the international standards and recommended practices become the ruling conditions for world commercial flying. Under terms of the interim agreement, member states "undertake . . . as rapidly as possible in their national civil aviation practices such recommendations as will be made through continuing study of the council."

**Preparations.** It is not expected, however, that any fundamental changes will be made in the technical annexes adopted at Chicago last year. Drawn up originally by the U. S. Civil Aeronautics Administration, these annexes are comprehensive and based on American standards, highest in the world.

While the activities of some subcommittees were being completed, preparations were completed to launch other study groups. The Council has approved agendas for the Aeronautical Maps and Charts and Search and Rescue subcommittees.

**Acceptance.** Dr. Edward Warner, Council president, last week announced that Greece had accepted the interim agreement and

the international air services transit agreement. The Mediterranean nation is the 37th member of PICAO and 26th state to ratify the transit agreement, which grants reciprocity the first two of the "five freedoms" of the air.

In making the announcement, Dr. Warner noted Greece's strategic location on the main Europe-Asia routes, and said its acceptance would be expected to facilitate development of international aviation in the area.

**Expansion.**—The Council has expanded the secretariat to include a new section on operating standards. Its chief and four experts will deal with customs procedures and manifests and accident investigation, and are charged with development of standards of aircraft equipment and air-scheduled international flying.

PICAO's Air Transport Committee continued its work through three special subsidiary groups, had nothing to report last week, and still has a long way to go in solving the problems under its jurisdiction.

**Resolution.**—PICAO took the initiative in meeting the need for special regional arrangements to plan measures of cooperation in the maintenance and development of air navigation facilities through a resolution asking the governments of those to convene a meeting of states directly interested in air navigation in the North Atlantic area. The Interim Council suggested that the meeting should be called not later than next March and afford PICAO's assistance in laying plans.

Taking action even before committees and subcommittees had completed consideration of the question of regional organizations, the Council acted in response to the expressed wishes of Dr. Warner that steps should be taken immediately to preserve vital air navigation facilities built up during the war. Unilateral arrangements are made for continued maintenance of these facilities, he has pointed out, they will be disbanded as the military organizations using

## IATA Conferences

Those of the more urgent regional traffic conferences of the International Air Transport Association will be convened by IATA's executive committee early next year in New York, Paris and Cairo, it was announced in Montreal by Dr. L. C. Tondie, acting secretary and treasurer.

Top priority was given the North Atlantic conference, which will meet in New York, Jan. 1. The European conference is scheduled for Paris, Feb. 12, and the Middle East group will convene in Cairo, Feb. 21.

**Voting.**—Voting members of the conferences are those members of IATA who operate scheduled international airlines between two or more points in the conference zone, or from a point to one conference in adjacent zone. Dr. Tondie also announced that the first meeting of IATA's technical committee was held in New York early last week. A. C. Campbell, Chief of British Overseas Airways Corp. was appointed chairman and André Poussier of Pan American Airways was named vice-chairman.

they are ordered dismantled.

The Council again took up the question of the first meeting of PICAO's assembly, but arrived at no definite decision. Only new development was the recommendation of Dr. Albert Roper, secretary-general, that the meeting be held in Montreal.

## Multi-Engine Fuel Ruling Postponed To April 30

Effective date of a requirement that fuel systems of all multi-engine aircraft in scheduled operations be arranged so that failure of any one component will not cause loss of power of more than one engine has been postponed six months by the Civil Aeronautics Board.

Adopted as a safety measure to overcome difficulties experienced in operating multi-engine planes not so equipped, the ruling—Special Civil Air Regulation 333—was to have taken effect Oct. 21. Extension to Apr. 30 was granted to allow operators to make necessary modifications during routine plane overhauls.



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## PAA North Atlantic Route Plea Opposed

American Export and TWA contend application for changes would mean reconsideration of entire decision.

Pan American Airways, seeking removal of some restrictions and modifications of its route awards in the North Atlantic area, met determined opposition from intervenors at last week's prehearing conference before a Civil Aeronautics Board examiner.

Charges that PAA is attempting to effect, in a new application, reconsideration of the entire North Atlantic decision were made by Transcontinental & Western Air. TWA alleged PAA would alter the territory granted itself and American Export Airlines. The result, TWA maintained, would be to destroy the territorial pattern

laid down by the Board in its decision. Furthermore, TWA contended, the similarity between PAA's new application and its position for reconsideration of the North Atlantic decision—already denied by the Board—along with like requests from four other carriers (American Airlines, Ansett, BOAC and British Overseas Airways) would lead only to reinstatement of service in the earlier case.

**Support**—American Export, other intervenor, endorsed TWA's contentions and stated it will file a motion to dismiss the instant proceedings. Export also opposed PAA's proposal to serve Frankfurt, Germany, announcing its own intention to serve that point.

Defending the application, PAA said an important question to be resolved was the "possibility" of operating the route awarded it by the CAB. The landing rights situation, PAA maintained, would assure great importance in that connection. In addition, PAA intends to show the "improper position" in which it has been placed.

**Protest**—Early hearing and disposition sought by Pan American was strongly protested by intervenors. Lackland agreement, Examiner Ross I. Newman stated that he would set the hearing date in his prehearing conference report, expected within 10 days.

## Mississippi Valley Route Hearing Heated

Disputes between airline representatives and between cities marked last week's opening of the Mississippi Valley route hearing before Civil Aeronautics Board Examiner Ferdinand D. Moran and James S. Kerlin in New Orleans. About 100 were present.

By mid-week, the session had settled down to presentation of statements on behalf of various proposed routes, with Braniff Airways countering, against some opposition, that its operation should be extended from Houston to New Orleans.

**Needs**—Earlier most of the various cities favored all new service proposed for each. New Orleans, most active, took the position that while there was no obvious lack of economic need for some of the proposed lines, city representatives would curtail information submitted during early stages of the hearing and present a statement on specific preferences later. Baton Rouge, Louisiana capital, declared its immediate need was

for additional service on established lines.

A conflict of interest developed between representatives of St. Louis and Kansas City over proposed extension of Eastern Air Lines to the latter city from St. Louis. St. Louis representatives issued statements into their city of areas now operating west of Kansas City (Continental Air Lines has applied for extension of its Denver-Kansas City route to St. Louis). Milton M. Kinney, chairman of the St. Louis airport commission, also told the exponents his city would lose competing routes in every direction, and differed with Eastern Airlines representatives on this issue.

**Heated Discussion**—Vice-President Charles E. Beard presented Braniff's plea for a Houston-New Orleans route. Further Col. M. M. Frost, an Eastern vice-president, had outlined proposals formulated by his company to provide hourly point service into New Orleans. Eastern also has had far service between Texas points and New Orleans and stressed plans for freight carrying. Cross-examination of Beard by various airline representatives became so heated that Examiner Moran ordered a recess.

### AVIATION CALENDAR

Nov. 22-23-24, Memphis Airline Aviation Conference, Tenn.  
Nov. 22-23, National Airplane Association, Board of Directors, Fourth Quarter, Memphis, Tennessee City.  
Nov. 23-24, Trade Aerial Meeting of the National Aircraft Manufacturers Association, American Airplane Association, Chicago.  
Nov. 23-24, "The National Airplane Association," Chicago, Illinois City.  
Nov. 23-24, Chicago, Illinois City of the Air Transport Association, Greater Area, Washington, D.C.  
Nov. 23-24, Transport Association, Greater Area, Washington, D.C.  
Nov. 23-24, National Airplane Association, Joint Private Pilot Conference, Dallas, Texas City.  
Nov. 23-24, American Society of Mechanical Engineers, 10th Annual Meeting, Hotel Pennsylvania, New York City.  
Nov. 23-24, National Air Transport Engineering Meeting, Englewood Cliffs, N.J., Chicago.  
Nov. 23-24, American Pilot Association, Greater Area, Washington, D.C.  
Nov. 23-24, Airplane Association and Manufacturers Association, Chicago, Illinois City.  
Nov. 23-24, Airplane, Private and Associated Conference, Dallas, Texas City.  
Nov. 23-24, International Aviation Day, St. Paul, Minn.  
Nov. 23-24, Institute of Aeronautical Sciences, World Forum, London, Washington, D.C.  
Nov. 23-24, Council of Science & Industry, Division of National Aeronautics Association, New York City.

1948  
Nov. 24-25, All-Ohio Air Meet, Dayton, Ohio City.  
Nov. 24-25, Airplane, Greater Area, Dallas, Texas City.  
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### PCA INSULATION:

PCA is bringing its converted planes with Fiberglas blanket insulation. Two thicknesses are used in the center sections adjacent to the wings and one on the rest of the cabin, about 748 sq. ft. altogether. Weight is less than DC-3's or 160 lb. Twelve rafflestons have been made and two more are in process. The same type of insulation is being put in the C-54's being converted for the carrier by the Glenn L. Martin Co. Picture shows a workman installing one of the blankets. Fiberglas was selected because it packs up a minimum of moisture, as compared with other types which can add several hundred pounds of deadweight to a plane.





## 30 Years' Work Overnight

**L**ET US REMAIN COMPLACENT about our technological superiority, and our excellent laboratories, we should consider this unpublished fact which seems to be verified readily by experts who are returning from Europe:

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overnight, probably as much research equipment and fundamental research data as we have tediously built up during the past 30 years.

We hope more Congressmen hear about this before they cast routine votes on Budget Bureau research recommendations, which undoubtedly will be as unrealistic as the Bureau's past figures on aviation.

## Debris at Airports

**T**HE NEWS PACIFIC COAST EDITOR, Scholer Bangs, has uncovered a post-war condition in the western area which prevails to an unhappy extent throughout the rest of the country. His survey indicates that a tremendous task of housecleaning confronts at least 40 smaller West Coast municipal airports in bustling old crashed Army, Navy and even civilian aircraft now littering the premises in full view of visitors who might have wanted to take a ride or contest for flying lessons.

Mr. Bangs finds that the military services have been flagrant in their failure to dispose of debris ranging from crash wreckage to piles of packing crates. To a lesser degree private operators are guilty of similar negligence.

At Winslow, Ariz., Municipal Airport, for example, a landing accident damaged a Douglas transport beyond salvage. After being stripped of accessories the fuselage was left beside the road used by airline passengers due to fly in the same type transport. The airport manager claims he has no authority to move the wreck because it is government property. The service which operated the plane has made no move to dispose of it. Although insignia were painted over after the crash, the plane obviously was flown by Naval Air Transport Service. Also at Winslow a Navy sewer installation has been allowed to flow into the open beside an airline passenger building.

In general, however, airport spokesmen feel that Army services have been worse offenders than the Navy, not only in leaving war junk on airports but in actual damage to airport facilities and failure to make subsequent repairs.

Airport spokesmen say that in several instances Army officers have replied, when pressed for a

commitment on how soon debris would be removed or airport damage adjusted: "How should I know? I'll be a civilian soon. I'll let whoever takes over my command worry about it."

The citation of airport damage charged to local military operations, much of it deemed unnecessary to the war effort, ranges from destruction of runways to the cutting of trees, tearing up entire sections of paved roads, and damaging of buildings. Very few repairs have been made.

While both the Army and Navy apparently have been careful to dispose of wreckage and debris at major air terminals in West Coast population centers, there has been a disregard of municipal interests at secondary airports, many of them used extensively by airlines, fixed base charter services, and flight schools.

Several instances of neglect by private airport owners were found, in which the services cannot be blamed.

At Willows, Calif., in plain view of all pilots, the wreckage of a civilian plane which was flown into a telephone pole is prominent in a conspicuous pile of aircraft junk.

Recently, near San Diego, at a small airport specializing in charter service and flight training, a small personal plane with a badly crumpled wing was allowed to remain parked for an extended period on the flight line, in full view of the major highway from which the airport operator apparently hoped to attract new business.

The situation calls for the immediate and combined corrective efforts of all municipal and private airport operators, as well as the services which have either commandeered or leased airports for their wartime and post-war operations.

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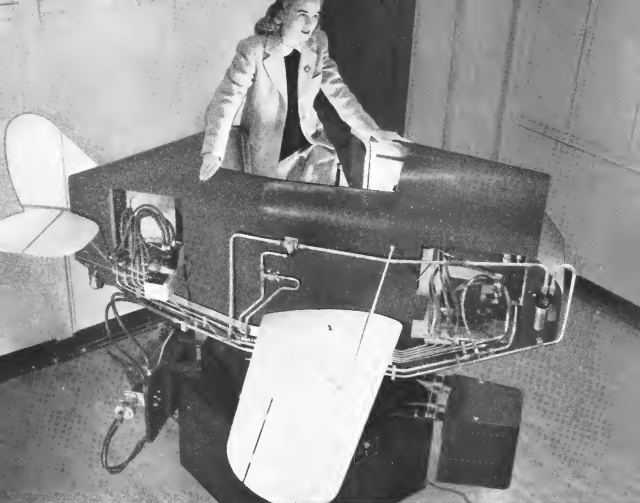
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## *Date with an Autopilot*

THIS young lady is about to "take off" with the G-E Autopilot in a Link Trainer—a decided contrast to the wartime assignment of the Autopilot, torpedo bombing. The trainer is a means whereby a person can match wits with this automatic pilot—and lose. Why? Because the pilot detects the slightest variation from course, and firmly corrects it.

The "brains" of the Autopilot consist of electrically driven gyros that are responsible for its stable, highly accurate performance, even at high altitudes. The Autopilot embodies features greatly desired in all aircraft systems—light weight, first-rate performance at all altitudes, sturdiness, and long-lived dependability.

G-E aircraft products, from the smallest instrument to the turbosupercharger and gas turbine, are used extensively by the Air Forces. Many of these G-E developments are now available for commercial aviation. Their wartime performance gave you some idea of the way our extensive facilities can be co-ordinated to produce specialized equipment. Today our engineering service is available at all times to meet the needs of the aircraft industry. *General Electric Company, Schenectady 5, N. Y.*



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